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ABSTRACT

These proceedings contain 20 papers from the 1992 and 1993 International Conferences on Outdoor Recreation. The papers include program descriptions; models for instruction and certification; and materials relevant to program development and administration in outdoor recreation, outdoor education, and adventure therapy and education. Papers are: "Army Recreation Internship Program" (Bob McKeta); "Basic Rock Climbing in 3 Hours: A Model for Instruction in an Indoor Climbing Facility" (Gil Anspacher); "The Canadian Association of Nordic Ski Instructors: Instructor Certification Model" (Glenda Hanna); "A Computerized Cataloging System for an Outdoor Program Library or Resource Center" (Ron Watters); "Conducting Outdoor Recreation Program Operations Daily on Campus with Minimal Negative Environmental Impact" (Wayne Morford); "Experience with Rutschblocks" (potential avalanche assessment) (Bruce Jamieson, Colin Johnston); "Experiential Therapy with Troubled Youth: The Ropes Course for Adolescent Inpatients" (Charles W. Blinkered); "An IBM Compatible Participant Data Base System for Outdoor Programs" (Ron Watters); "Listen to Your Inner Voice: Using Your Intuition in Outdoor Leadership" (Janice Cook); "Moving Ahead: Program Review & Evaluation As Tools for Growth" (Bruce Hendricks); "Outdoor Equipment Rental, Getting the Most Bang for Your Buck" (Mike Ruthenberg); "Outdoor Program Management Concepts for the 90's" (Alex Borton, Gary Nielsen); "Overuse Injuries in Rock Climbing" (Murray E. Maitland); "Possible Computer Roles in Your Outdoor Program" (Timothy Traver); "Reducing the Odds: Backcountry Powder Skiing in Avalanche Terrain" (Tony Daffern); "Regional Conferences: A Great Way To Train Everyone's Staff" (Jim Lustig, Pete Ryan); "Risk Management and Litigation Avoidance in Outdoor Recreation Programming" (Glenda Hanna); "SCUBA Certification: The NAUI Model" (Mike Keppell); "University of Alberta Climbing Wall: Wall Design and Construction" (Glenda Hanna); and "Why Is Outdoor Recreation Worth $30 Million to the Air Force?" (Phillip Heeg). Includes conference schedules and speaker profiles. (SV)

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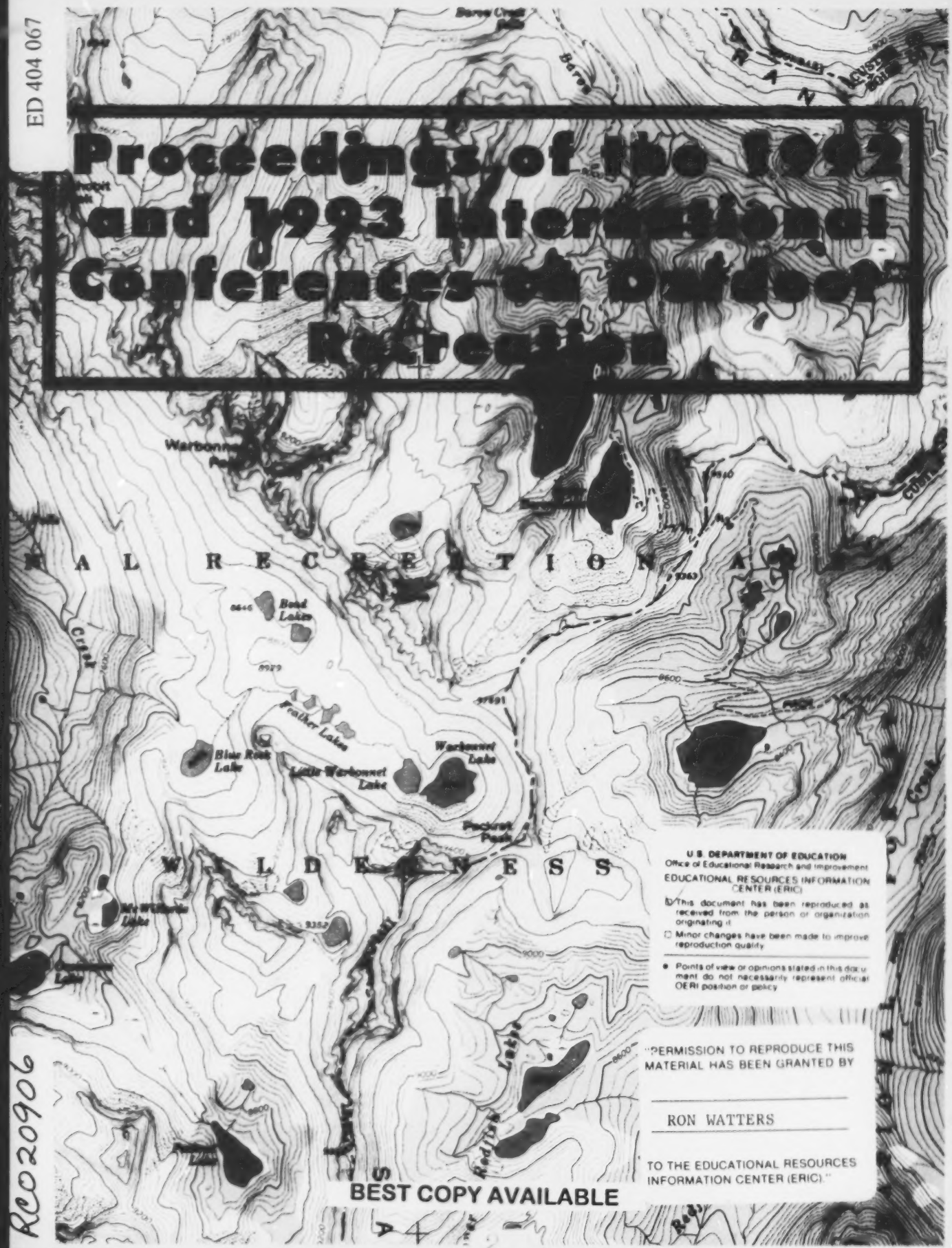

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Proceedings of the 1992 and 1993 Conferences on Outdoor Recreation

Edited By
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INTRODUCTION

This collection of papers serves as the written record of the 1992 and 1993 International Conferences on Outdoor Recreation. Since its inception in 1984, the Conference on Outdoor Recreation has been, and is, the only national and international conference devoted solely to schools and organizations involved in non-profit outdoor recreation. Represented at the conference are college and university outdoor programs, academic departments, and military programs.

The 1992 conference was the first to be held on Canadian soil at the University of Calgary in Alberta. The conference was headquartered in the beautiful and expansive MacEwan Student and Physical Education complex. Built for the Calgary Olympics, the complex houses the Olympic speed skating oval, weight and fitness facilities, a suspended jogging track, and the University of Calgary Outdoor Centre which has a two story climbing wall built into the office.

In keeping with the Olympic theme, one of the popular extracurricular conference activities was a breathtaking ride down the Olympic luge course. Unfortunately, snow hadn't arrived yet to the Canadian Rockies and some of the pre and post conference workshops were cancelled, but the content of the conference more than made up for the uncooperative weather.

The type of sessions offered at annual conferences can sometimes be used to gauge trends taking place in the field, and it was evident at Calgary that personal computers were playing broader role in outdoor education. More and more outdoor programs are utilizing computers in office, data collection and rental applications.

One of the most engrossing presentations at the conference was by Sharon Woods who was the first North American woman to climb Mt. Everest. Woods' program was innovative, combining video and slides in a manner that gave the audience the feeling that they were on the mountain with her. Chatter in the room quickly dissipated to a hushed silence as Woods retold her inspiring story.

The Calgary Conference was a hard act to follow but Oregon State University was up to the task and sponsored the 1993 International Conference on Outdoor Recreation. Trends evident at the Corvallis conference included a maturing of leadership training programs and continued progress in the effective use games and initiatives in team building and personal development.

The Oregon State Outdoor Program exists on a small budget, but despite those limitations they are an example of how programs can make big things happen. Their sponsorship of the conference was one example, but another example was OSU's climbing wall. Throughout the conference, attendees were able to visit and use a climbing wall that they had constructed on a modest budget by using a team of dedicated volunteers.

The Corvallis conference was significant in that the Association of Outdoor Recreation and Education was created and has now become an important part of outdoor education landscape of North America. Corvallis also reaffirmed the how crucial wild lands are to outdoor programs. That reminder came from Lou Gold. With a long gray beard and headband and walking stick, Gold came down out of his mountain home in the Siskiyou Mountains of southern Oregon and spoke eloquently and passionately of the value of ancient forests and the need to protect wild places. Few left his program without a greater understanding of the old growth debate and a renewed resolve to work for those special outdoor resources which are so vital for the survival of humankind.

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Army Recreation Internship Program

Bob McKeta
Department of the Army

Abstract—This article describes an internship program offered by the U.S. Army in outdoor recreation, including eligibility, responsibilities, expectations, and application procedure.

Introduction

The Army Recreation Internship Program is still relatively unknown to many colleges and students unless: (1) the campus is located near an Army installation, or (2) military recreation a part of the academic curriculum. While the Army has increased its awareness in recent years, there are still numerous questions and misconceptions about the program.

Perhaps the best way to envision the Military Recreation Program is to keep in mind that the processes relating to management, administration, personnel responsibilities, funding, programming, marketing and promotion, etc., apply regardless of the organizational setting: corporate, municipal, private, industrial, or military. Additionally, at the program operational level, government civilians usually plan, develop, and manage facilities and programs in conjunction with other government civilian employees. And, there are no mandatory requirements to participate in military related activities such as weapons firing, fitness runs, and similar training programs.

The Army centralized the intern program within the U.S. Army Community and Family Support Center (USACFSC), Alexandria, Virginia, Community Recreation Directorate, in the summer of 1988, making it easier for students and colleges to contact a central office for program information. Prior to this date, internships were offered, but both students and colleges worked independently to develop contacts with installations to determine the availability of internships.

Centralizing the program enhances the coordination for all parties involved. The program works basically this way: Installations worldwide are contacted (by message) to determine if they want to participate in the program. Once the information is received from installations it is compiled in booklet form and forwarded to all participating colleges and universities by mid-January.

How the system works:

Stateside Internships

The college or university coordinator has authority to contact the installation point of contact (POC) reference student placement. Pertinent information such as name, phone number, mailing address, type of internships, etc., are outlined in the booklet.

Overseas Internships

All overseas assignments will be made by CFSC. On site interviews will be conducted at four to six locations during the end of January/first part of February. Students are encouraged to contact CFSC concerning the interview schedule. All student documents, i.e., government employment form, letter of recommendation from the intern coordinator, grade transcript, and recent (current school year) medical exam are required as part of the evaluation process.

Student Responsibilities

Students should be prepared to pay travel, housing medical, passport (overseas), and other personal expenses. Actual cost will vary depending on the assignment. Installations realize the various expenses facing the intern, and within available resources, provide assistance which "a include a stipend, part or full time employment, travel, and/or housing. Potential interns should research the booklet mailed to the intern coordinator for the type of assistance available at those installations of interest to them.

What the Intern Can Expect

The intern program will emphasize program development and implementation. Interns will have an opportunity to monitor, assist, and depending on their background and experience, develop and conduct programs. With this exposure to the programming functions, interns will also have an opportunity to become familiar with other administrative and logistical requirements, i.e., budget planning, marketing and promotion, procurement, contracts, facility management, construction, renovation, administrative and operational correspondence, and briefings and seminars. Interns can also expect a brief introduction and orientation outlining the community recreation program.

How to Apply

Internships are availabie in the following areas: community recreation, sports, youth activities, and outdoor recreation.

College intern coordinators or students who desire further information reference the Army Internship Program should contact Mr. Bob McKeta, U.S. Army Community and Family Support Center, ATTN: CFSC-CR-RO, Alexandria, Virginia 22331-05410, or telephone (703) 325-2523.

Bob McKeta is the Director of the Army Outdoor Recreation Program in Alexandria, VA.

Basic Rock Climbing in 3 Hours: A Model for Instruction in an Indoor Climbing Facility

Gil Anspacher
Oregon State University

Abstract—Indoor Climbing gyms are being built on college campuses all across the country. Climbing in a gym is different from climbing on real rock. This paper address the need to modify climbing instruction for the indoor gym environment. Gym and class preparation, instruction, exercises, and a class time frame outline are discussed.

Introduction

With the advent of indoor climbing facilities, we have found a new arena for the instruction of rock climbing. With this new arena we are presented with some unique opportunities and challenges in teaching rock climbing. At Oregon State University's Outdoor Recreation Center, instructors have developed a model which presents the central topics of movement on rock, knot tying and belaying in three action packed hours. A brief outline of the model is attached at the end of this article.

The described model is a basic framework for our three hour Introduction to Rock climbing class. The spice, flair and individual style is up to the instructor and their assistant. We teach an average of ten students utilizing an instructor and an assistant. Classes are held on Sunday mornings throughout the school year. A similar model also has been used as an introduction for students enrolled in weekend beginning rock climbing classes at Smith Rock State Park.

Facility Preparation

Advance preparation is critical to the success of our classes. With only three hours of instructional time, the facility needs to organized around the flow of the class and efficient instruction. Certain adjustments to the facility must be made in order to ensure early success in the class. Preparations are detailed below and their purpose will become more evident as the model is described.

We use our "low angle" wall (about 75 degrees) for a majority of the class. Large holds which will easily accommodate tennis shoes are bolted onto the wall at about 2 feet above the ground across the wall. Holds are spaced so that half of our group of 10 students are able to stand on the wall with relative ease at one time. Large holds are placed throughout the beginner area of the facility to keep

climbing grades at moderate levels. A mock belay is set up on the floor to allow all 10 students to be tied in at one time. Harnesses, carabiners and belay devices are set out ready for use. Examples of magazines, catalogues, guide books and instructional materials are set out for students to read at their leisure.

Movement on Rock

We begin our classes with a section emphasizing movement on rock. Through introductions of students and instructors, we are able to assess comfort and skill levels of our students. Such questions as, "Have you ever climbed before?" and "Why did you decide to take this class?" have been very useful in directing the style of the class. We begin our movement section with some exercises and stretching relevant to climbing. Stretches that use weight shifts from foot to foot are a good idea. If time permits and the class seems open to the idea, a short initiative, such as the human knot, is presented.

The idea of the legs carrying a majority of the weight is a central theme in the movement section. Students are asked to do silly things like walk, hop and dance around the gym and then asked to do the same using their arms. The point is now clear. This point is emphasized and the rolling weight shift from foot to foot is introduced. Students are paired up into 5 pairs, each student alternating between spotting and climbing on the lower holds of the wall (about 2 feet above the ground).

Exercises

In this section, four exercises are used to illustrate basic forms of movement. They are as follows:

Relaxed Achilles: Students will often flex their calves and point their toes to stay on a hold. Encourage students to relax their leg around the Achilles region. Even though a pointed toe may be necessary in some situations, it is good to get students out of this habit early. Stress energy conservation!

Rolling weight shift: I sometimes refer to this as a graceful rock dance. Ask students to stand on the floor, feet spread wide apart and lift one foot without shifting their weight. Then ask them to do this with a weight shift. This can be illustrated by the image of a bag of pennies hanging from one's crotch which swings over the weighted leg when weight is shifted.

Foot change: Have students develop methods for changing from one foot to another on one hold.

Pink point: This technique emphasizes balance and rest positions as well as helping students to become comfortable on the wall. Have students stand comfortably on two footholds using only one hand for balance. Using the balance hand that was on a hold, point the index finger into the wall and use this for balance. Try to have as little pressure as possible, the point where the finger nail tissue stays pink, not white.

Harnesses, Knot Tying and Belaying

Demonstrate harness fit, adjustment and buckles. As time is critical, it is a good idea to allow time for a bathroom break after the harness demonstration. Using the mock belay set-up which allows for 10 students in 5 pairs to be tied in at one time, demonstrate the figure eight knot. Be creative and visible. Pairs should then tie in on one set-up together ready for belay practice.

With the assistant, demonstrate the belay action on a separate mock belay set-up close to the students already attached to their own set-up. An exercise that has worked well for us is the 1-2-3

system. One, brake hand pulls away from the belay device as the guide hand pulls toward it; two, guide hand slides above brake hand; three, brake slides back down to the belay device. Students should practice once each and be monitored for ability. With the assistant, demonstrate an actual climb illustrating the use of belay anchors, commands and climbing, falling and lowering sequences.

Integration of Skills

With instructor supervision, on their first climb, have students practice one fall at a comfortable and safe height. This is a good method for putting students in a correct position for being lowered before they are at an uncomfortable height. Encourage movement through the climbing space. Light music is a nice addition at this time. Monitor students for comfort and skill level. Give advice where desired and necessary.

Summary

Review the main topics covered and any questions regarding what was covered. Lead climbing is addressed briefly. As there are a variety of differences between climbing in an indoor facility and in an outdoor natural setting, students are briefed on their present level of knowledge and differences between indoor and natural environments. Many students will want to know where they can go from this point in their learning. It is important to inform them of all the options in the area near to you. We encourage them to take further classes and come to the Indoor Climbing Center to continue climbing.

Class Outline

3 hour class and 1 hour facility preparation time
10 students and 2 instructors

Time	Activity
8:00	-Put extra holds on low angle wall for balance exercises -Take out all knots from all beginner side ropes -Lay harnesses out with figure 8's and locking carabiners -Lay out guide books, magazines and catalogues on front counter
8:55	Set out Assumption of Risk and Liability Waiver forms, class list, examples of shoes and equipment, magazines, guidebooks and basic instruction books. As each person comes in, check off the list, have them sign a form and check for hair tied up, loose clothing, fingernails and shoes.
9:00	-When all in, do introductions of students, instructor and assistant. -Climbing experience? Why did you decide to try climbing? -Fear is OK, we all have it! -Outline class schedule and style -Warm-up with exercises, stretching and initiative game (Relative to climbing movement)
9:15	-Discuss and demonstrate key concepts: balance; legs do the weight carrying; hands below eye level.

9:30	-To the wall! Demo correct stance and rotate groups of 3 students: relaxed Achilles, rolling weight shift (bag of pennies); foot change; pink point. Watch all & reinforce.
10:00	-Belay pairs, fit harnesses (double back buckles!) -How strong is this equipment? -Demo tying figure 8 knot once, then together with participants using same ropes for mock belay set-up -Demo belay sequence (1,2,3); Pairs practice on floor with mock set-up -Tie in method (belay anchors), belaying, lowering and commands -Demo (climb, fall & lowering with commands)
10:30	-**CLIMB!** Reinforce concepts covered so far.
11:30	-Warning: ten minutes left to climb!
11:40	-Summary: overview main points: -How does the rope get up there? (lead climbing): -Tie-in method at rock gym; orientation for rock gym; rock gym hours -Where do I go from here? (Additional classes, shoe rentals, etc.) -OSU Mountain Club -Evaluation cards .... take down and put away gear!

Gil Anspacher is presently an instructor for the Pacific Crest Outward Bound School and the Oregon State University Outdoor Recreation Center.

The Canadian Association of Nordic Ski Instructors Instructor Certification Model

Glenda Hanna, Ph.D.
University of Alberta

Abstract—This paper summarizes the certification program of the Canadian Association of Nordic Ski Instructors. It covers history, mission, membership, course content and certifiction issuses.

History

CANSI formed in 1976, influenced by cross country ski instruction programs of the Canadian Ski Association (CSA), the Canadian Ski Instructor's Alliance (CSIA), and Ski Quebec. Over its history, CANSI has provided leadership and training in ski instruction in classic and telemark techniques, and more recently in ski skating. Since its inception, CANSI has certified over 2600 instructors, in every province and territory in Canada.

Mission Statement

- The mission statement of CANSI is:

  To provide leadership in the development and communication of innovative teaching and technical standards for people involved in nordic ski instruction which fosters quality learning experiences.

- The objectives of CANSI are:

  1. To provide a standard of excellence in certified nordic ski instruction by maintaining uniform and current nordic techniques and by delivering nationally accepted pedagogy to the skiing public.

  2. To encourage the skiing public, including people of all ages and abilities, to take advantage of the benefits of nordic ski instruction.

  3. Through a viable and functioning communication network, focusing on technical and pedagogical advancements, to provide supportive and stimulating resources to instructors

for the benefit of the skiing public.

4. To promote and maintain national and international liaison within the nordic discipline.

Board of Directors

CANSI is directed by a volunteer board of directors, with one board member representing each of nine geographical regions. This board is responsible for the setting of policy and budgets. The organization is administered on a day to day basis by a part time executive director.

Each region is also represented by a technical representative (who may be the same individual as the board member for that region). This individual attends an annual national technical briefing and in turn, brings new teaching and technical innovations and standards back to the regional briefings they run in their area. Anyone conducting certification courses must attend a regional examiner's briefing, where they are updated by their regional technical director.

Membership

Members are free to select one of three different categories of membership status:

1. Active - full privileges including insurance, voting, newsletters, etc.
2. Associate - all privileges except insurance
3. Affiliate - newsletter only

CANSI has certified over 5000 instructors over its 16 year history and currently has about 850 paid members in all categories. The vast majority of these are active members.

Non-Certification Courses

As part of its fundamental commitment to helping develop and maintain instructional leadership in cross country skiing in Canada, CANSI runs a variety of non-certification courses, including:

Introduction to Instruction

A one day course for school teachers, community members and others to receive an exposure to the basics of nordic ski instruction.

Level I Pre-course

A two day course designed to help prepare potential CANSI Level I candidates receive instruction and feedback on their skiing and teaching to increase their likelihood of successful completion of their Level I course.

CANSI Refresher

Offered at all levels, refreshers are not recertifications (i.e.. they do not involve any examina tions) but are designed to provide existing instructors with feedback on their teaching and skiing and to update them on new innovations and standards.

Course Conductor's Briefing

Individuals holding a Level III or IV certification who are involved in conducting and/or examining Level I or II courses are required to attend one to two day briefings to receive

feedback on their teaching and skiing and to update them on new innovations, standards and course administration changes.

Telemark Course Conductor's Briefing

Individuals holding a Telemark Course Conductor's certification who are involved in conducting and/or examining Telemark Instructor's courses are required to attend one to two day briefings to receive feedback on their teaching and skiing and to update them on new innovations, standards and course administration changes.

Certification Courses

The purpose of certification courses is to train and examine instructor candidates to ensure they will be comfortable and competent in instructing the techniques they are covering:

Cross Country Skiing

- Master Course Conductor
- Level IV Instructor - 6 day course
- Level III Instructor - 5 day course
- Level II Instructor - 5 day course
- Level I Instructor - 2 day course

Telemark

- Master Course Conductor
- Telemark Course Conductor - 5 day course
- Telemark Instructor - 2 day course

Course Content

In each CANSI certification course, instruction, practice and continuous evaluation occurs in:

1. Skiing - specific techniques identified at the Level attempted to the criteria associated with the Level attempted.

2. Lessons - on two to four teaching episodes, depending on Level attempted. Assessment includes demonstration of:

a) Teaching Skills (e.g., selection and use of appropriate terrain, teaching style, group organization, activity level, communication skills, etc.),

b) Technical Knowledge (e.g., explanation and demonstration of the skill, quantity and quality of

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feedback to group and individuals to promote skill development, etc.).

Each ski skill and lesson evaluation are assessed on a marking scale including four points: Excellent, Satisfactory, Marginal and Unsatisfactory. Candidates attempting each Level are allowed one Marginal on their ski items and one Marginal on their teaching items.

Level III and IV candidates must also demonstrate competence in technical analysis and marking (to a mark of 75%) in on-snow and video analysis sessions of themselves and other skiers at or below their Level.

Instructor Support and Resources

CANSI members have access to a variety of services and resources to help them, including:

- *Instructor's Manual for Teaching Nordic Skiing* — an excellent pedagogical manual covering most techniques taught by CANSI
- *How to Cross-Country Ski* Video — a motivational and instructional video
- *X-Citation* Newsletter (4 issues/year) — includes articles on nordic skiing and ski instruction, program updates and events calendars
- Insurance — $2,000,000 per occurrence general and non-owned automobile liability
- Pro-purchase — reductions on equipment and clothing for certified instructors
- Interski — international event held every four years to exchange teaching and skiing ideas. CANSI sends a demo team to participate and share in this major festival and conference.
- Liaison with Cross Country Canada, the Canadian Ski Instructor's Alliance and other organizations involved in the development of skiing in Canada.

Why do we do it? CANSI's Response to Certification Issues

Gatekeeper Role

The focus in CANSI is on both quality and conformity. The association strives to ensure that instructors will have comparable skills to allow for transferability between regions. The vast majority of cross country and telemark ski schools in the industry in Canada require CANSI certification of their instructors. The association has evolved high standards in each of its technical and teaching areas (classical, skating and hill), and places its emphasis at all levels in working with recreational cross country and telemark skiers.

While generally congruent, CANSI standards are not always identical to those of organizations like the National Coaches Certification Program (coaching nordic racers) and the Canadian Ski Instructor's Alliance (instructing downhill). Differences generally emerge only where equipment limitations, trail skiing requirements, participant fitness or other related factors affect transferability.

Many CANSI members confess that they initially took their Level I or even II to improve their own ski technique because there were few good cross country ski instruction programs available. Fortunately for the organization, a significant number of these people later found themselves turned

on to teaching what they had learned. CANSI is still the only organization in Canada providing instructor training and certification in telemark skiing progressions.

Who Certifies?

A Level III certification is needed to examine Level I courses, a Level IV to examine Level II courses and Master Course Conductor status (about 4 people in Canada) is needed to certify Level III or IV candidates. While apprenticeship requirements remain flexible, generally candidates are recommended to conduct or assist on one to two courses to practise their teaching and examination skills before actually examining courses at a given level.

CANSI has not been immune to accusations of it's upper echelon constituting an "Old Boys Club". Earlier in its history, high teaching and technical standards and a dearth of pre-courses led to a high failure rate on first attempts (approaching 50%) and a perception of the existence of pass/fail "quotas". With the introduction of additional levels of certification allowing more gradual progression between levels, this frustration has been largely addressed.

In addition, board and technical directors have generally been Level III and IV instructors, and this group has generally been grossly under represented by women across the country. This is changing. Frequently, these perceptions of elitism have proven overstated, as many regions have experienced difficulty finding any volunteers to sit on the board, let alone worry about their gender. As the association is financially stable, but just, most regions can only afford to send one individual to represent them on the national board and national technical committee. As this individual must be prepared to return to their region to run the course conductor's briefing for that area, they must be advanced instructors themselves, capable of explaining and demonstrating new standards and of assessing other's teaching and skiing abilities at Level I and II.

Legal Liability

CANSI carries a $2,000,000 per occurrence commercial general liability and non-owned automobile insurance policy to cover certified instructors while they are engaged in instructing nordic skiing activities. To date there have been no claims made on this policy, suggesting substantial attention to safety by member instructors. In addition, the CSIA's experience suggests that the programming agency is typically sued first and that their insurance will be claimed against before the instructor's certification insurance becomes accessible by a claimant. To date, no outdoor leadership/ instruction certification agency has ever been successfully sued in Canada. An individual making such a claim against the organization would have to prove that an unsafe technique was taught to the instructor as part of his or her CANSI course training. Other than this somewhat unlikely scenario, as CANSI does not receive any direct financial benefit from the participants taking courses from certified instructors, no direct relationship to the association exists from which a participant could readily make a claim.

While certification is by no means a guarantee of safety, CANSI believes that safe and educationally efficacious instruction techniques can be taught and that this will eventuate in fewer accidents and subsequent lawsuits involving certified instructors. On the contrary, avoiding certification may reflect an attitude of vagueness and unprofessionalism; an, "if I'm not certified, I can't be held to the standard of the certified instructor" attitude. This is not necessarily true. The absence of instructor certification doesn't mean that participants will necessarily assume more physical or legal responsibility for themselves. Where an individual assumes the role of a nordic ski instructor, they will be held to the same standards of care that an individual trained and certified for this role must meet. CANSI is convinced that trained, certified instructors can and do consistently provide better and safer instruction in nordic skiing than untrained, unqualified instructors can, and to this end it strives to increase the pool of capable instructors across the country.

Instructor Judgment

While nordic skiing is often not perceived as physically risky as downhill, a significant number of safety issues must be addressed by instructors. Factors requiring instructor judgment include: terrain selection for teaching, participant readiness to learn specific techniques taught, skier flow (reducing potential for collisions, especially on hillwork), and activity level (sufficient to retain warmth, but not exhaustive). Generally, the consequences of an injury occurring during a cross country or telemark instructional class are not as severe as in a backcountry situation where substantial time and distance to life support networks (e.g., ambulance, hospital, etc.) may complicate the effects of an accident.

CANSI supports adoption of the Skier Safety Code and rules of etiquette by all skiers. It also endeavors to include a wide variety of progressions in activities, skills and terrain demands built into each subsequent level of training. Finally, instructor candidates perform practise teaching and skiing during CANSI courses and refreshers and receive feedback on the safety of their teaching and skiing. Through this process they are also exposed to the modelling of advanced instructors who highlight the need for a safety conscious approach through their words and personal example.

Are Purposes Achieved?

Despite an exceptionally large geographic region (Canada is the largest country in the world!), CANSI instructors have consistently provided the Canadian skiing public with high quality instruction. The organization has provided a high level of interprovincial instructor transferability through its maintenance of high standards for instruction and skiing and through its well-developed communication network (national and regional technical briefings, newsletter, occasional papers, etc.). The safety record of CANSI certified instructors is beyond reproach.

The CANSI pedagogy for instructing nordic skiing has been widely adopted and adapted for teaching skiing and other physical skills. The organization has evolved in its emphasis from a strong orientation toward technical skiing to a greater focus on creative, innovative teaching of ski skills. As a result, CANSI courses reflect a good deal of shared leadership and good times. They are fun and people seek them out as a result of this reputation for enjoyably developing instructional leadership as well as skiing skills.

CANSI is involved in the certification of individual instructors, as opposed to the recognition of individuals graduating from any particular accredited institution's programs. While program accreditation may be the answer in some disciplines, CANSI does not believe it carries much potential in the area of nordic skiing instruction. The reason for this is that CANSI instructors work for too diverse a market, including: schools, universities, colleges, ski schools, ski clubs, camps, youth groups, other community clubs and groups, etc. and none of these institutions or agencies do or should have the exclusive right to deliver instruction in nordic skiing. It's CANSI's goal to get people skiing as part of an active outdoor lifestyle, and this is best accomplished by a broad based, accessible approach, versus a closed shop.

CANSI will continue to promote quality learning experiences in nordic skiing. It remains committed to training (learning for predictable situations) and educating (learning for unpredictable situations) instructors to provide safe, enjoyable, educationally efficacious nordic ski instructional experiences to participants of all ages and ability levels. The organization will work to retain its international reputation as a successful outdoor activity instructor training and certification model, and will continue to grow and evolve as the state of the art and science of nordic skiing and activity skill instruction in general develops.

Glenda Hanna, Ph.D. is an Assistant Professor of Outdoor Environmental Leadership in the Department of Physical Education and Sport Studies at the University of Alberta. She is also the technical director of the Canadian Association of Nordic Ski Instructors (CANSI).

A Computerized Cataloging System for an Outdoor Program Library or Resource Center

Ron Watters
Idaho State University

Abstract—This paper explores a computerized system of cataloging materials for small to medium sized outdoor recreation resource centers. Free to non-profit organizations, the software described in the paper is designed to create and manage a database of books, videos, environmental impact statements and other resource materials. Among other functions, the software will produce files which can be used by a word processor to print cards for a card catalog, and it can be used to make rapid word searches to find needed materials.

Introduction

Many Outdoor Programs maintain outdoor resource libraries. Included in the library may be books, environmental impact statements, videos, periodicals, and other materials. As more items are accumulated, it becomes more and more difficult for users and staff members to know what is available and where it is located. A cataloging system can solve the problem. Moreover, a computerized cataloging system is particularly effective, allowing users to do rapid word searches to find needed resource materials.

This paper summarizes a free software program which can be utilized by outdoor recreational programs to manage materials in their outdoor resource library. The program, entitled the Outdoor Resource Library Cataloging System (ORLCS), is designed primarily for outdoor programs with small to medium book, periodical and video collections.

Using the software, a database of library materials is constructed. Once in the database, materials can be easily located by author, title, call number, or subject area. Users can find materials by searching with a key word. For instance, a user can enter the word "compass" and all materials in the database that include "compass" in the description will be listed. The software can also be used to prepare a file for your word processor to print Roldex or index cards for a card catalog.

The program is free to non-profit organizations and agencies. Those interested in obtaining a copy, should send a blank formatted disk and a self addressed, stamped computer disk mailer to ISU

Outdoor Program, Box 8118, ISU, Pocatello, ID. 83209. It is one of two free programs that are available from Idaho State. The other program is a participant database system which can be used for preparing mailings and keeping demographic information on participants. A paper describing the participant program can be found in this *Proceedings*.

The program is built upon the Dbase IV language which has long been a standard among database software applications available for IBM compatible computers. One of the advantages of building a program like the Outdoor Resource Library System on the Dbase language, is that it allows you the flexibility and the ability to customize. If desired, you can change the program and add new categories to the database entry form or alter functions so the software better addresses your needs.

Dbase can also be used to set up other databases useful in outdoor programs. You can keep information on participants, set up mailing lists, or record sales information. Consistently ranked among the top three or four commercial databases, Dbase provides a wide range of features. Unfortunately, it is not free. But college and universities can obtain an "academic version" of Dbase for around $200—a considerable saving over its normal retail price of $795.

Information on Dbase and current "academic" prices are available from Borland, International, 1800 Green Hills Road, Scots Valley, CA 95067.

If you are not part of a college program, there's another option. Do some shopping around by paging through the ads in the current issue of *PC Magazine*. With a little research, you can usually end up paying far less than the advertised retail price.

To run Dbase IV, you need an IBM compatible computer with at least 4 megabytes of room available on your hard drive. A 286 machine will run the program but 386, 486 or Pentium machines are much snappier.

Call Numbering In ORLCS

The call numbering system used by ORLCS consists of a two-place designator: a letter and a number. An example of a call number is "S31." The letter represents an activity area: "S" for snow related activities (skiing, winter camping, snowshoeing), "W" for water related activities (rafting, kayaking, sail boarding, etc.), "H" for hiking and backpacking, and so on. The call number is simply the number of the book as it was added to the library. The first book purchased in the Hiking Subject area is "H1," the second book purchased is "H2" and so on.

This is a simple system which can be easily understood by your users and staff. It is also handy when doing an inventory of your library and looking for missing books. All that is necessary is to quickly scan the spines of the books in the library, looking for a gap in the numbers.

Finding missing books is far more difficult when using other types of cataloging systems. Moreover, other library systems often place similar outdoor books in categories that may be located in different areas. For instance, under the Library of Congress system some mountaineering books may go in a geography area, others may be placed in a biography area and still others may be placed in a physical activity section.

One of the interesting pieces of the information to come out of the 1993 International Conference on Outdoor Recreation was that systems similar to that described above—or adaptations of it—have been developed independently and are being used by several outdoor programs.

Shanna Lee Tarter of Cornell University has devised a well thought out cataloging system which consists of a three-place designator. The system includes a "type" designator in additional to activity area and book number. Within each activity area, Shanna Lee places books into one of three types: literature (biography, history, fiction), guides (where to go), or technique ("How To" books). An

example of a book cataloged under their call system is "W Lit 4." This system has all the advantages of the one described above with the additional convenience of having all literature, guide books and technique books all located on the same area of the book shelf.

The ORCLS uses the two-place designator system of a letter and a number. However, the software can be modified to include Cornell's "type" designator.

The following is a list of the call letters that we use at Idaho State. You will probably make changes to the list depending on your program:

B	Biking, Mountain Biking
C	Climbing, Mountaineering, Ice Climbing
D	Dutch Oven Cooking, Outdoor Cooking
F	Fishing, Fly Fishing
FA	First Aid
G	Geography
H	Hiking, Hiking Guides
N	Nature, Wildlife, Flora & Fauna
O	Outdoor Survival, Safety
R	Rifles, Hunting
S	Snow, Skiing, Alpine & Cross-country Skiing, Ski Guides
V	Variety (Outdoor Recreation, General Outdoor, Other non-outdoor topis)
W	Water Sports: Rafting, Kayaking, Sailboarding, Canoeing, River Guides
X	Exercise & Sports: Running, Exercising Programs

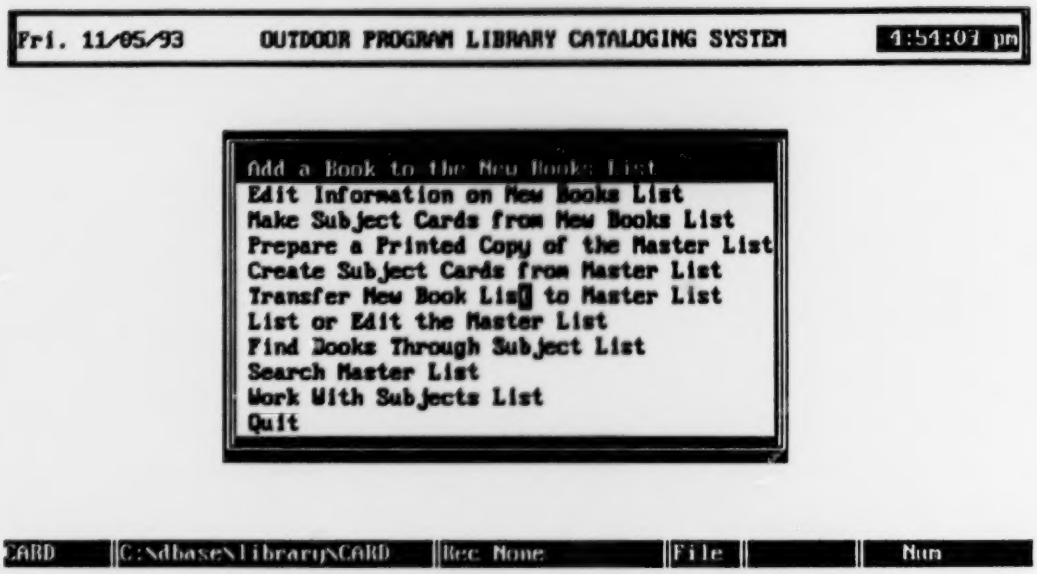
Starting the Program

To start the program you must have Dbase IV installed on your computer. You also must have copied the ORLCS files to your hard drive. Start Dbase IV by typing the word "DBASE" at your computer's prompt.

The opening menu in Dbase will appear on the screen. From the opening menu, you need to move to something in Dbase called the Dot Prompt. The way to reach the Dot Prompt is to press ALT-E (Exit) to activate the "Exit" pull down menu, and move the highlight so that "Exit to Dot Prompt" is selected and press ENTER. A dot will appear on the screen with the cursor flashing beside it. This is Dbase's Dot Prompt. At the Dot Prompt, type in "DO CARD," and ORLCS will start.

Main Menu

When the program first starts, the Main Menu appears:


Fri. 11/05/93
OUTDOOR PROGRAM LIBRARY CATALOGING SYSTEM
4:54:07 pm
Add a Book to the New Books List
Edit Information on New Books List
Make Subject Cards from New Books List
Prepare a Printed Copy of the Master List
Create Subject Cards from Master List
Transfer New Book List to Master List
List or Edit the Master List
Find Books Through Subject List
Search Master List
Work With Subjects List
Quit
CARD
C:\dbase\Library\CARD
Rec: None
File
Num
To catalog-in a new book, choose this function.

Everything begins and ends at the Main Menu. If you want to enter information on a new book, you would select "Add a Book to the New Books List." If you want to search by a subject, you would select "Find Books Through Subject List." To select a function, use the UP and DOWN arrows keys on the keyboard to move the highlight up and down the list—or you can press the first letter of the item. For instance, pressing "S" will activate the function, "Search Master List."

To understand the Main Menu, it is helpful to define two terms: Master List and New Book List. The "Master List" is the most important. It is a file that contains information on all the books, periodicals and videos in your library.

The "New Book List" is a smaller file which stores information on new materials. It acts as a temporary storage area for new books until you have entered enough to make out index or Roldex cards for your card catalog. Once the cards are made, you can move the books from the New Book List to the Master List.

The chart below summarizes each of the functions on the Main Menu:

Add Books to New Book List. You start here when first setting up your own database. A form appears on the screen with the author's name, title, publisher, copyright and other descriptive information. (The form is illustrated on the next page). On the form, you enter information on each material in your library.

Edit Information on New Books List. If, while you are working with new books, you need to make corrections on any of the entries, choose this function. It allows you to page through the new books, stopping where needed to make changes.

Make Subject Cards from New Books List. Once you are finished adding new books or other materials, select this function. This will make a file containing all the information on materials on the New Book List. The file then can be imported into your word processor to make author, title and subject cards.

Prepare a Printed Copy of the Master List. This function allows you to sort and print the Master List. First, you can select how you wish to order the Master List: author, title, or call number. When the list is sorted, a file will be created that you can import in your word processor. Once in your word program, you can select fonts, format the list to your liking, and print it.

Create Subject Cards from Master List. This function will allow you to make cards for your card catalog from the Master List. From a list of all your materials that appear on the screen, you check the ones you need cards for. After you have made the selections, the program will create a file which can be imported in your word processor to make the printed cards.

Transfer New Book List to Master List. When you are finished making cards from the New Book List, this function will move all the new materials to the Master List. The New Book List will be emptied and readied for more entries.

List or Edit Master List. If desired, you can view the Master List on your computer monitor. Before viewing, you can select how you want the books and materials ordered (author, call number or title). You can also select the format in which the material is displayed: by a card format which is an electronic version of a printed card from the card catalog—or in a spreadsheet format in which the books, author, title, etc. are listed in columns and rows.

Find Books Through Subject List. If you choose this function, a list of your subject areas will appear on the screen. (For a list of subjects, see "Work with Subject List" later in this paper.) Once you have chosen the desired subject, all books categorized under the subject will be listed.

Search Master List. In this function, you enter a key word and the program searches through all descriptions for the word. For instance, if you enter the word "Backpack" any material with the word backpack in the description will be listed.

Work with Subjects List. As you enter new books, you will be indicating one or more subject categories under which the book should be placed. For instance, Yvon Chouinard's book Climbing Ice, may be placed under the Mountaineering and Ice Climbing subject areas. If Mountaineering and Ice Climbing are not yet on the Subjects List, this function allows you to add them.

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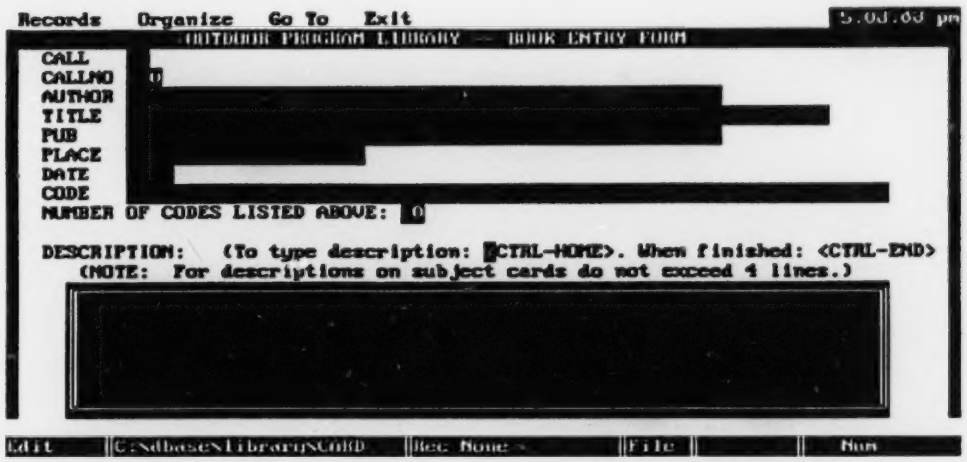
New Book Functions

When you choose "Add a Book to the New Books List," the form, below, appears:



You can move from blank to blank on the form by pressing TAB or ENTER. The call letter (see list in the Call Numbering section, above) is entered in the top blank, "CALL." The next available call number is entered in the "CALLNO" blank. The blanks for "Author," "Publisher," "Place," and "Date" are all self explanatory.

In the code blank, enter one or more subject codes. Each subject code is separated by one space and corresponds to a subject area in your card catalog. For instance, for the book, *Rivers of the Southwest*, the following codes may be used: RIV—Rivers, KAY—Kayaking, CNO—Canoeing, INT—Intermountain Area, NMX—New Mexico, COL-Colorado, and ARZ—Arizona. A card for *Rivers of the Southwest* would then be found in each subject area: Rivers, Kayaking, Canoeing, etc.

A list of the subject codes is found later in this paper, under the heading, "Work with Subject List."

After indicating the subject codes, count them and enter a number in the "Number of Codes" blank. This tells the program how many cards to make for the card catalog.

On the last part of the form, a large space is available for the book description. You can reach this part of the form by TABBING to it and then pressing CTRL-HOME. The box turns into a miniature word processing program. You can insert words, delete, move sentences around, etc. If you are using small Roldex cards (2"x4"), make sure that you limit the description to not than 4 1/2 lines. If you plan to use larger cards, then you can enter more lines. The number of lines possible on larger cards will vary and you will have to experiment to determine the limit.

After completing the description, you can type in a series of key words starting on line six and going to line 12. Key words are anything that would help a person find the book when a computer search is done. For instance, for the *Rivers of the Southwest* book mentioned above, on line six you may wish to type in the names of rivers covered by the book.

One important thing to remember about the description is not to use any double quote marks ("). (Single quote marks are OK.) The reason for this has to do with how files are created for use by your word processor. Double quotes are used to separate the fields which correspond to the blanks on the

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form and any extra double quotes will confuse your word processing program, creating garbled information.

Making Subject Cards

When you choose the "Make Subject Cards from New Books List," ORLCS will create a file for your word processor. The file is named CARD.TXT. In computer parlance, the file is said to be "delimited with quotes." This means that each field within the file is placed between quotes and separated from one another by commas. Each separate book is separated by a carriage return. Here's an example of how two records in the file look:

"C","1","Becky, Fred","Cascade Climbing","Mountaineers","Seattle","1989","MTR CAS","2","This is Fred Becky's guidebook of climbing in the Cascades."¶
"C","2","March, Bill","Ice Climbing","Glen Publishing","London","1974","MTR ICE","2","A compact, all-around guide to the techniques of ice climbing."¶

The delimited file is a very common way to moving database information from one program to another. The "Merge Letter" option of your word processor should be able to import CARD.TXT.

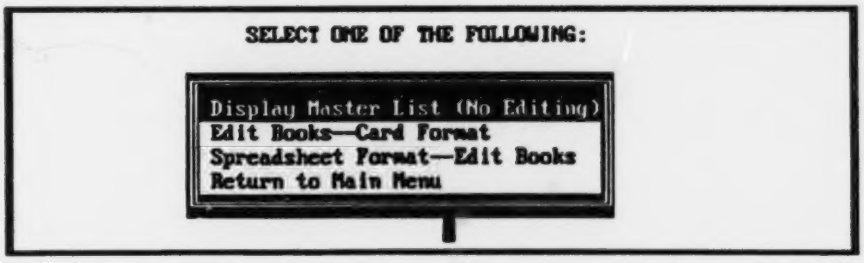
You'll need to experiment with different designs until coming up with one that, once merged with the library data, will fit on a Roldex card. We print our new book entries on a plain piece paper, cut each out the by hand and paste it on a Roldex card. (Some printers will take a special heavy type of paper with tear dots in the shape of Roldex card, and you may wish to use this instead of using our cut-out method.)

Transfer New Book List

Once you have made Roldex cards, your next step should be to move the New Book List to the Master List. This is easily done by selecting the "Transfer" function on the Main Menu. All the records in the New Book List will be emptied and moved to the Master List.

List or Edit the Master List

At any time, you can look at the Master Book List, and, if needed, changes can be made. When you choose this function, the following appears:


SELECT ONE OF THE FOLLOWING:
Display Master List (No Editing)
Edit Books—Card Format
Spreadsheet Format—Edit Books
Return to Main Menu

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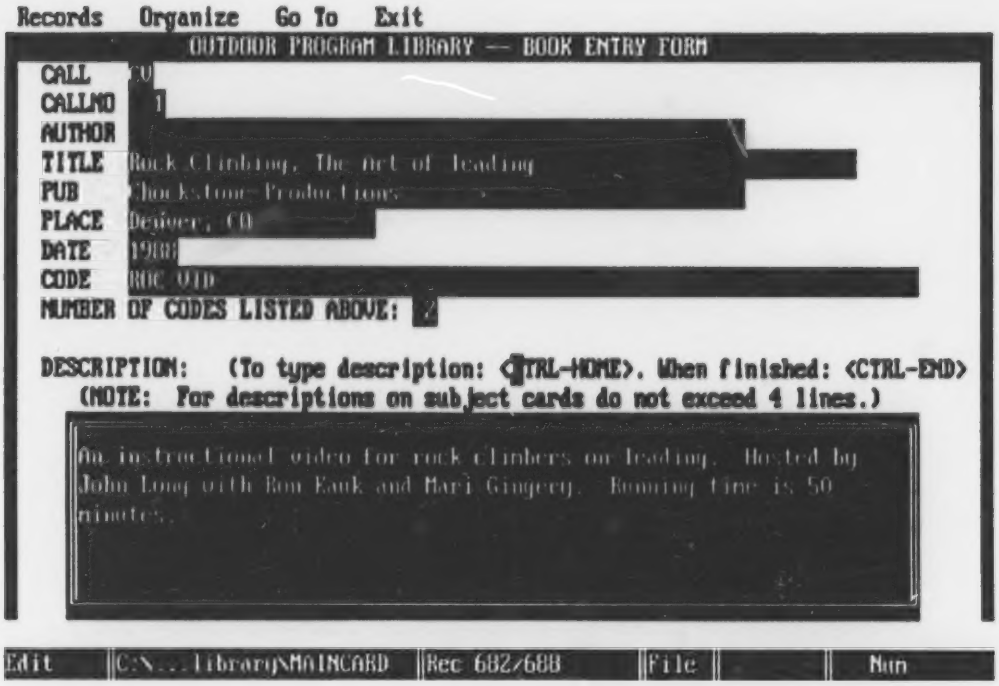
The options are:

Display Master List (No Editing)—This allows you to review the list, but won't let you make changes. The option has been included for non-staff users of the program to page through the listing of the books. By having users select the "No editing" option, you won't have to worry about anyone accidently changing any information.

Edit Book—Card Format—This choice allows you to page through the books. Each book is listed in the card format as shown below:


Records Organize Go To Exit
OUTDOOR PROGRAM LIBRARY — BOOK ENTRY FORM
CALL
CALLNO
AUTHOR
TITLE Rock Climbing, The Art of Leading
PUB Chockstone Productions
PLACE Denver, CO
DATE 1988
CODE ROC VID
NUMBER OF CODES LISTED ABOVE:
DESCRIPTION: (To type description: <CTRL-HOME>. When finished: <CTRL-END>
(NOTE: For descriptions on subject cards do not exceed 4 lines.)
An instructional video for rock climbers on leading. Hosted by John Long with Ron Kauk and Mari Gingery. Running time is 50 minutes.
Edit
C:\...library\MAINCARD
Rec 682/688
File
Num

You can go to a specific book, by pressing ALT-G which activates the GO-TO menu on top of computer screen. Press I for Index Search and you can search for an author if you are in an author listing or you can search for a title if you are in a title listing. Once you have located the desired book, you can make any corrections needed.

Spreadsheet Format—Edit book
This choice allows you to look at the Master List in a spreadsheet format where the books are listed in rows. An example is shown on the next page.

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The following is an example of the Spreadsheet Format:

Records Organize Fields Go To Exit

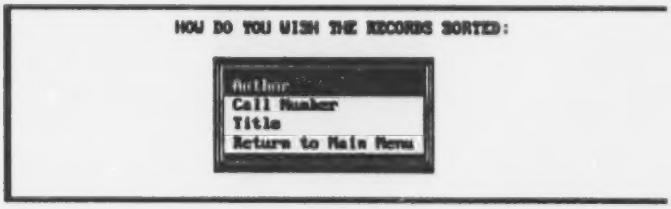
CALL	CALLNO	AUTHOR	TITLE
C	41	Beckey, Fred	Cascade Alpine
C	97	Beckey, Fred	Cascade Alpine
W	27	Belknap, Bill and Buzz	Canyonlands Riv
W	75	Belknap, Bill and Buzz	Canyonlands Riv
W	26	Belknap, Buzz	Grand Canyon Ri
F	14	Bergman, Ray	Fly, Plug, and
H	34	Bezruchka, Stephen	Guide to Trekki
B	4	Bicycle Institute of America	Bicycle Clubs
B	8	Bicycling Magazine	Precision Tuneu
B	6	Bicycling Magazine	Instant Bicycle
B	2	Bicycling Magazine	Bicycling Milea
B	1	Bicycling Magazine	Overcoming Cycl
B	7	Bicycling Magazine	Instant Bicycle
C	71	Bingham, Dave	City of Rocks,
C	91	Bingham, Dave	City of Rocks,
C	122	Bingham, Dave	City of Rocks I
C	134	Bjornstad, Eric	Desert Rock: A

Browse | C:\...library\MAINCARD | Rec 2272/600 | File | | Run

You can go to a specific book, by pressing ALT-G which activates the GO-TO menu. Press I for Index Search and you can search for an author if you are in an author listing or you can search for a title if you are in a title listing. Once you have located the desired book, you can make any corrections needed.

Sorting

For all of the above options, an additional window appears, asking how you want the entries arranged:



By using the arrow keys, move the selection bar to the chosen arrangement and press ENTER

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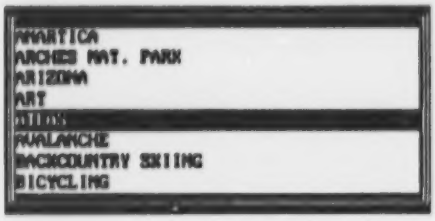
Find Books Through Subject List

The OPLCS software has two methods of searching for books. The first method, uses the subject list, and the second method (described in the next section) uses key words. At the Main Menu when you choose "Find Books Through the Subject List" function, the following appears:



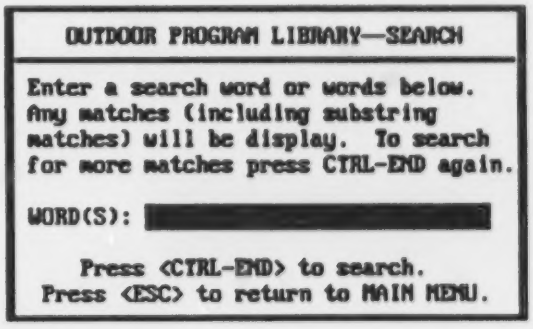
This is a list of all of the subjects that you have in your subject card catalog. They correspond to the codes that you have included on each book's entry form. You can page through the subjects by pressing the Page-Down key on your keyboard. You may also press a letter, i.e. pressing "W" will move you to all subjects beginning with the letter "W."

After you have selected the desired subject, the first book classified under that subject will appear on the screen. By pressing Page Down, each subsequent book under the chosen subject will appear.

Search Master List

The second way of searching for materials is to use a key word search. When you choose "Search Master List" at the Main Menu, the following appears:

You can enter any word (or several words) in the blank. The program will then search for any


OUTDOOR PROGRAM LIBRARY—SEARCH
Enter a search word or words below.
Any matches (including substring
matches) will be display. To search
for more matches press CTRL-END again.
WORD(S):
Press <CTRL-END> to search.
Press <ESC> to return to MAIN MENU.

instances of the word in book titles and descriptions. It will also search the words you have entered on line six through line 12 of the description. When it finds a match, the book's entry form will appear on the screen. By pressing Page Down, any other books that include the search word will also appear on the screen.

Work with Subject List

As you m ake entries on books, you will enlarge your original list of subject categories. Any new subjects that you come up with need to be added to the subjects' file which is maintained by the ORLCS program. To make an addition, select "Work with Subject List" on the Main Menu. Page Down to the bottom of the screen and type in the subject code letter and topic. If needed, you can make corrections on any of the previously entered codes. When you exit from this function, any new codes will be sorted and placed in alphabetical order.

Listed below are the codes and subject categories that we use for our library. You'll want to add others that are appropriate to your program.

ADV ADVENTURE
AFR AFRICA
ALA ALASKA
ALM ALMANACS
ALS ALPINE SKIING
ALP ALPS
ANA ANAPURNA
ANR ANARTICA
ARC ARCHES NAT. PARK
ARZ ARIZONA
ART ART
ATL ATLAS
AVA AVALANCHE
BSK BACKCOUNTRY SKIING
BIK BICYCLING
BIO BIOGRAPHY
BIR BIRDS
BON BONATTI, WALTER
BUG BUGABOOS
CAB CABIN BUILDING
CAL CALIFORNIA
CAN CANADA
CNO CANOEING
CAS CASCADES
CLO CLOTHING
COL COLORADO
CON CONSERVATION
DIV CONTINENTAL DIVIDE
COK COOKING
CCS CROSS COUNTRY SKIING
DES DESERTS
DSA DISASTERS
DUT DUTCH OVEN
ECO ECOLOGY
EDB EDIBLE PLANTS
ENV ENVIRONMENT
EUR EUROPE
EVR EVEREST
EXP EXPLORATION
FIR FIRE MAKING
FAD FIRST AID
FIS FISHING
FIT FITNESS, EXERCISE, VARIOUS SPORTS
FLY FLY
FLY FLY FISHING
FOO FOODS
GEO GEOLOGRY
GNP GLACIER NAT. PARK
GLA GLACIERS
GCN GRAND CANYON
HIK HIKING, BACKPACKING
HIL HILLARY SIR EDMUND
HIM HIMALAYAS
HIS HISTORY
HOR HORSES
HOT HOT SPRINGS
HUM HUMOR
HUN HUNTING
ICE ICE CLIMBING
IDA IDAHO
IDT IDAHO TRAIL GUIDES
IND INDIA
INT INTERMOUNTAIN WEST
KAY KAYAKING
KNT KNOTS
MAK MAKING IT YOURSELF
MAP MAPS, COMPASS, ORIENTEERING
MAR MARSHAL, BOB
MCK MCKINLEY, MT
MEX MEXICO
MIN MINIMAL IMPACT
MON MONTANA
MNB MOUNTAIN BIKING
MTR MOUNTAINEERING

MNT MOUNTAINS, MOUNTAIN RANGES
HEL MT. ST. HELENS
MUR MUIR, JOHN
NAV NAVIGATION
NEP NEPAL
NEV NEVADA
NMX NEW MEXICO
OLY OLYMPIC MOUNTAINS
ORE OREGON
OPS OUTDOOR PROGRAM/EDUCATION
OUT OUTDOORS, GENERAL
PHW PACIFIC NORTHWEST
PET PETZOLT
PHL PHILOSOPHY
PHO PHOTOGRAPHY
PLA PLANTS
POE POETRY
RAF RAFTING
REC RECREATION & LEISURE
RIV RIVERS, GENERAL INFO
ROC ROCK CLIMBING
RMP ROCKY MT. NAT. PARK
RUN RUNNING
SAB SAIL BOARDING
SAL SAILING
SAN SANITATION
SAW SAWTOOTHS
SEK SEA KAYAKING
SEA SEA, OCEAN,COASTAL AREAS, SEA FARING
S&R SEARCH & RESCUE
SHL SHELTERS
SIR SIERRA MOUNTAINS
SKA SKATEBOARDING
SNK SNAKE RIVER & AREA
SNS SNOWSHOEING
SAM SOUTH AMERICA
SOD SOUTH DAKOTA
SET SOUTHEAST USA
SOW SOUTHWEST USA
SPE SPELUNKING
SRV SURVIVAL
TET TETONS
TIB TIBET
TIL TILMAN
TRA TRAVEL
USF U.S. FOREST SERVICE
UTA UTAH
WAS WASHINGTON
WEA WEATHER
WCL WHITE CLOUDS
WIL WILDERNESS
WRV WIND RIVERS
WIN WINTER TRAVEL, STAYING WARM
WOM WOMEN & OUTDOORS, WOMEN'S CONCERNS
WRT WRITING, EDITING
WYO WYOMING
YEL YELLOWSTONE
YOS YOSEMITE
ZOO ZOOLOGY

Making Changes to the ORLCS Program

The ORLCS program is composed of a series of program files. Each of the program files can be identified by a .PRG extension. For example, when ORLCS starts, the Main Menu comes up. The Main Menu is found in CARD.PRG. If you want to make any changes to the Main Menu, they need to be made in CARD.PRG.

Let's look at how you would make a very simple change in the Main Menu. One feature that you may wish to change is the title of the Main Menu. When you first obtain the program, the Main Menu's title is "OUTDOOR PROGRAM LIBRARY CATALOGING SYSTEM." The title can be easily changed to your organization's name. To do so, first start up your word processor and load CARD.PRG. (You can also use the editor built into Dbase. It is reached from the Dbase dot prompt by typing in: "MODIFY COMMAND CARD.PRG." For more information on the editor, see the Dbase manual.

If you haven't done any programming, CARD.PRG won't make much sense. However, for the title change, you don't have to know how the Dbase language works.

With CARD.PRG loaded in your word processor, look for the following line:

lc_heading = "OUTDOOR PROGRAM LIBRARY CATALOGING SYSTEM" && Menu heading string

Once you have located it, delete the following: "OUTDOOR PROGRAM LIBRARY CATALOGING SYSTEM" and type in the name of your organization. Be sure that you include the opening and closing quotes. For the instance, after changes the new line may look like the following:

lc_heading = "IOWA STATE LIBRARY CATALOGING SYSTEM" && Menu heading string.

After the alteration is made, save CARD.PRG. If you are using a word processor, be sure to save it as "text" or "ASCII." Dbase can only work with text or ASCII files.

Now start up the ORLCS program by typing in "DO CARD" at the Dot Prompt, and you'll see the new title on the Main Menu.

If you wish to make other changes or add new features, you (or a computer aficionado involved in your program) will need to dabble with the Dbase language. The good thing about ORLCS is that it provides you with a start. You can use it as a template, keeping the features you like about it and adding new ones without re-inventing the wheel.

Conducting Outdoor Recreation Program Operations Daily on Campus With Minimal Negative Environmental Impact

Wayne Morford
Miami University of Ohio

Emphasis Areas

1. Purchasing

a. Buy recycled paper and office paper products.
Examples: File folders, envelopes, note pads, publicity items,
(Should include at least 10% post consumer waste content).

b. Print promotional materials on recycled products and try other "non-paper" creative ways to market your program.
Examples: Radio-p.s.a.'s window painting, get into other existing publications, include environmental information, articles, tips, etc., in your promotional materials, slide show/in-person presentations, displays at campus/community events.

c. Purchase heavy duty equipment that isn't disposable.
Examples: Not cheap plastic ponchos, ground clothes, checkout equipment.

d. Purchase and use supplies that are not toxic.
Examples: Baking soda, vinegar, non-toxic markers, paints.

e. Buy in bulk.

f. Support manufactures who operate with/support "green" services/products.
Examples: Try to buy non-disposable pens, don't use disposable plates and utensils for staff/office functions, etc...

g. Re-use shipping boxes and materials, envelopes, etc.....

2. Forms/Paper Use

a. Reduce/simplify/combine forms (use fronts and backs), create reusable forms, i.e., rental cards.

b. Keep used one-sided paper and cut up for note pads, other flyers, etc.....

c. Use computers to compose and edit correspondence, forms, in place of paper, and use computer mail if possible, phone or fax correspondence.

d. Use re-markable boards instead of paper pads.

3. Resource Center

a. Reuse old magazines for their pictures, info., etc.....offer old magazines, fitness journals to participants.

b. Carry environmental magazines such as Garbage, Buzzworm, Nature, Conservancy, Sierra Club, Cousteau Society.

c. Offer information on minimum impact self-propelled activities, home based supplies/ products alternatives.

d. Develop an environmental information center or bulletin board.

e. Carry environmental catalogs such as Seventh Generation, Earth Care Products.

f. Develop a recycling center for staff to use, etc. Make or purchase an in-house compost barrel for coffee grounds, etc...

g. Offer a checkout system over photo copying.

4. Program Operations

a. Reuse old equipment parts for creative decorations, storage systems, ...
Examples: reuse old cut up climbing ropes for group initiative props/games, reuse old equipment to patch other gear, offer non-sellable equipment to other campus organizations, i.e. art design department, old bike parts for modern art or jewelry.

b. Offer minimum impact information with each equipment rental.

c. Recollect and then recycle used fuel containers, etc.

d. Offer incentives for rental customers/staff to clean up areas they visit.

e. Carry inventory that promotes minimum impact and is efficient.

Examples: rechargeable batteries (are there any really good ones?), unleaded stoves.

f. Hook up renters going to the same area for car-pooling.

g. Contact your campus/local environmental safety and health office for disposal of any toxic materials (i.e., paints, cleaning supplies, bike solvents, fiberglass & repair products), recycling of used propane canisters, ideas on substitute products, regula tions and suggestions dealing with handling of infectious wastes, etc.

h. Look at feasibility of setting up own repair, or using other repair services,

5. Trip/Workshop/Facility Operations

a. Buy supplies/materials/foods in bulk.

b. Promote environmental behavior and philosophy that is more responsible than just following minimum recommended agency rules

c. At pre-trip meetings make it a deliberate part of the agenda and one of the top priorities.

d. Reuse grocery bags

6. Local Programs/Activities

a. Support/organize cleanup projects, work with other organizations.
Examples: Habitat for Humanity, University environmental committees.

b. Support/offer activities that promote self-sustaining lifestyles.
Examples: Earth Day, Arbor Day.

c. Support your state department of natural resources, work with political action committees on state/federal legislation.

d. Walk/ride a bike around campus to do errands, offer incentive points for those who self-propel themselves to your facility/programs.

e. Offer educational programs that will help the average campus member get-in-touch with environmental impact, what is recyclable.
Examples: Central campus campout themes, residence life collaboration.

7. Other:

a. Make environmental responsibility a central goal or purpose of your mission statement.

b. Promote your own program's success in recycling, etc...

c. Lower thermostat.

d. Work with campus environmental Health and Safety office on protections needed for your staff and facility.
Examples: chemical splash protection - goggles, gloves, fuel storage cabinets, blood bom pathogens,
• Viruses, Hep-B,

Minimum Impact Suggestions for Hosting Conference/Meetings

1. Planning/Organization Stages

- minimum impact in mission statement
- conference planning topic/priority
- encourage/mandate presentation materials be printed on recyclable, etc..
- include a "green" statement requirement from host hotel

2. Promotions/Publicity

- combine mailings
- have a group registration form
- tap into other newspapers

3. Registration

- try to coordinate conference attendees so they can car pool together, arrival times, etc...
- offer a reusable conference mug as part of the registration packet.

4. On-site procedures/activities

- re-markable signage boards instead of paper

5. Meals/Breaks

- non-throwaways for utensils

6. Travel

- car-pool, shuttles

7. Evaluation

- is there a better way to evaluate each session than with paper forms?

Wayne Morford is the associate director, Outdoor Program Coordinator at Miami University of Ohio.

Experience with Rutschblocks

Bruce Jamieson and Colin Johnston
University of Calgary

Abstract—During the winters of 1990-1992, Rutschblock technique and limitations, variability and precision of Rutschblock scores, and applications of Rutschblocks to slab stability evaluation were studied in the Cariboo and Monashee Mountains of western Canada. The time required for each test was reduced to 10 minutes or less by using cords, specialized saws or the tails of skis to cut the two sides and the upper wall of the Rutschblock. The median Rutschblock score was 4 or less on most days when one or more large dry natural slab avalanches were reported by helicopter skiing guides operating within 30 km of the study area. Also, median Rutschblock scores were 4 or less near slabs that had been ski-released and individual scores up to 5 were recorded near recently ski-released slabs. In spite of natural variability of Rutschblock scores on a particular slope, decreasing the slope angle by 10° tended to increase the Rutschblock score by 1. A tendency for higher and more variable scores was noticed near the top of several slopes.

Introduction

The Rutschblock test was first used by the Swiss army in the 1960s. Its popularity in North America began following Föhn's (1987) calibration of Rutschblock scores.

During the winters of 1990-1992, we performed over 1000 standard and non-standard Rutschblock tests on dry snow in the Cariboo and Monashee Mountains of western Canada. Field studies included the following topics: variations in techniques; variability and precision of scores; Rutschblock scores concurrent with dry slab avalanches; the effect of slope angle on Rutschblock scores; and spatial variability of Rutschblock scores on particular slopes.

Technique

Test sites should be representative of the avalanche terrain under consideration and undisturbed. For example, to gain information about a wind-loaded slope, you need to find a safe part of a similarly loaded slope for the test. The site should not contain buried ski tracks, avalanche deposits, etc. or be within about 5 m of trees where the buried layers might be disturbed by wind action or by clumps of snow that have fallen from the nearby trees.

Rutschblocks done in starting zones provide the best indication of slab stability. However, safety may require that the test be done on less steep slopes with conditions similar to the starting zone.

The following technique is very similar to that described by Föhn (1987). After identifying weak layers and potential slabs in a snow profile, extend the pit wall until it is at least 2 m across the slope (Fig. 1). Mark the width of the block (2 m) and the length of the side cuts (1.5 m) on the surface of the snow with a ski. The lower wall should be a smooth vertical surface cut with a shovel. Dig or cut the side walls and the upper wall deeper than any weak layers that may be active.

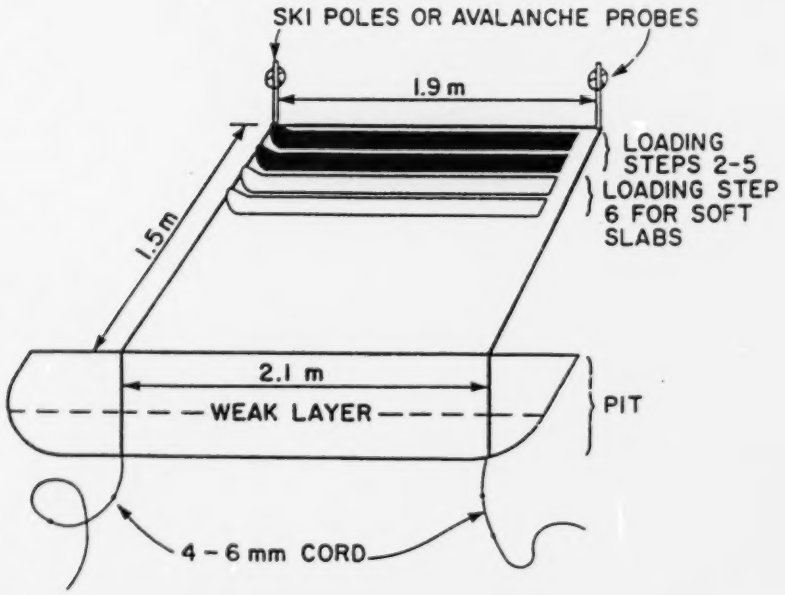


Figure 1. *Cord-cut Rutschblock test. Sides can also be shovelled or sawed.*

Load the Rutschblock in the following sequence:

1. The block slides during digging or cutting.
2. The skier approaches the block from above and gently steps down onto the upper part of the block (within 35 cm of the upper wall).
3. Without lifting the heels, the skier drops from a straight leg to a bent knee position, pushing downwards and compacting surface layers.
4. The skier jumps up and lands in the same compacted spot.
5. The skier jumps again onto the same compacted spot.
6. For hard or deep slabs, remove the skis and jump on the same spot (as recommended by Föhn). For soft slabs or thin slabs where jumping without skis might penetrate through the slab, keep the skis on, step down another 35 cm - almost to mid-block - and push once then jump three times.
7. None of the loading steps produced a smooth slope-parallel failure.

Interpretation of Rutschblock Scores

The following interpretation of Rutschblock scores (Föhn 1987) applies to tests done in avalanche starting zones. If the slope angle at the test site differs substantially from the slope angle in the starting zone, then the interpretation of the Rutschblock score should be adjusted by 1 step for each 10° difference. For example, a Rutschblock score of 4 on a 25° slope should be interpreted the same as a score of 3 in the adjacent 35° starting zone, provided that snow conditions are believed to be similar.

1, 2 or 3	The block fails before the first jump. The slope is unstable. It is likely that slopes with similar snow conditions can be released by a skier.
4 or 5	The block fails on first or second jump. The stability of the slope is suspect. It is possible for a skier to release slab avalanches on slopes with similar snow conditions. Other observations or tests must be used to assess the slab stability.
6 or 7	The block does not fail on the first or second jump. There is a low (but not negligible) risk of skiers triggering avalanches on slopes with similar snow conditions. Other field observations and tests, as well as safety measures remain appropriate.

Faster Cutting Techniques

To study potentially faster techniques, we cut the sides and upper wall with a cord, tail of a ski or 1.3 m long saw, and compared the time requirement with that from adjacent tests using the traditional technique. Average time requirements, excluding site selection and equipment preparation, were only reduced from 10.4 minutes for shovelling the side walls to 9.1 minutes for cutting the side walls with a cord. However, cutting both side walls and the upper wall with a saw or tail of a ski reduced the average time requirement to approximately 5 minutes. These faster techniques have their disadvantages: it is difficult to cut slabs thicker than 0.6 m slabs with the tail of a ski; cords will not cut most slabs containing melt-freeze crusts; and saws are effective under all conditions, but weigh 1.2 to 1.8 kg and are bulky to transport.

To minimize any effect of friction or bonding in the narrow side cuts made by cords or saws, we angled the side walls so that the block was 1.9 m wide at the upper wall and 2.1 m wide at the lower wall. In a concurrent paper recently submitted to the Journal of Glaciology and cited here as Jamieson and Johnston, scores from saw- or cord-cut Rutschblocks averaged 0.3 more than the scores from shovelled Rutschblocks. However, the difference was not significant at the 90% level or higher based on a two-tailed t-test or Wilcoxon test for matched pairs.

Minimum Slab Thickness for Rutschblocks

A Rutschblock test is effective only for weak layers deeper than ski penetration, and several jumps on a soft slab can result in considerable ski penetration. Since this ski penetration problem can result in erroneously high Rutschblock scores and a serious over-estimation of snow stability, we are sceptical of Rutschblock results involving weak layers that are within 5 cm of ski penetration. For the soft slabs in our study area, almost all ski penetration problems occurred when the load over the weak layer was less than 400 Pa (4.0 g/cm^2). For densities ranging from 100 to 300 kg/m^3, this critical load corresponds to slab thicknesses ranging from 0.40 to 0.13 m respectively.

Variability and Approximate Precision of Rutschblock Scores on Uniform Slopes

Sets of 36 to 73 Rutschblock tests were done on each of 6 slopes that had mean slope angles of 28-33° and varied in slope angle by less than ±4°. Median Rutschblock scores for the six slopes ranged from 3 to 5. The median score was obtained on 67% of the tests (Jamieson and Johnston). Scores 1 and 2 steps above the median were obtained on 12% and 2% of the tests respectively. Scores 1 and 2 steps below the median were obtained on 18% and 1% of the tests respectively. No scores 3 steps above or below the median were obtained.

By assuming the above distributions of deviations from medians are representative of uniform slopes, the probability of a single Rutschblock score on a uniform slope being the median is 67%. Similarly, the probability of one score being within one step of the median is approximately 18% + 67% + 12% = 97%. The probability of the median of two independent tests being within ½ step of the slope median is approximately 91% and or being within 1 step of the slope median is approximately 99% (Jamieson and Johnston). We suggest that independent tests be 10 m apart.

These estimates of the precision of 1 or 2 tests are appropriate only when the tests are done at sites with 4° of the mean slope angle and on slopes free of trees, rock outcrops or terrain features that might prevent relatively uniform layering of the snowpack. Also, these estimates do not apply to slopes with medians of 1, 2, 6 or 7 for which truncated distributions of Rutschblock scores are expected. However, the precision of 1 or 2 Rutschblock tests is certainly of practical interest when median scores are in the range of 3-5.

Rutschblock Scores and Concurrent Natural Avalanching

Since Rutschblock tests and natural slab avalanches both involve shear failure within a weak snowpack layer, we attempted to correlate natural slab avalanche activity with Rutschblock scores. On a total of 80 days during the winters of 1990-92, the Rutschblock tests were performed in two study areas that we felt were often representative of widespread snow conditions. These areas are located at 1900 m and 2050 m in the Cariboo Mountains, and consist of slopes that are in lee of most storm winds. The avalanche activity was reported by the helicopter skiing guides operating in the nearby areas of the Cariboo and Monashee Mountains. Most of the reported avalanches were within 10-15 km of the study area although some were up to 30 km away.

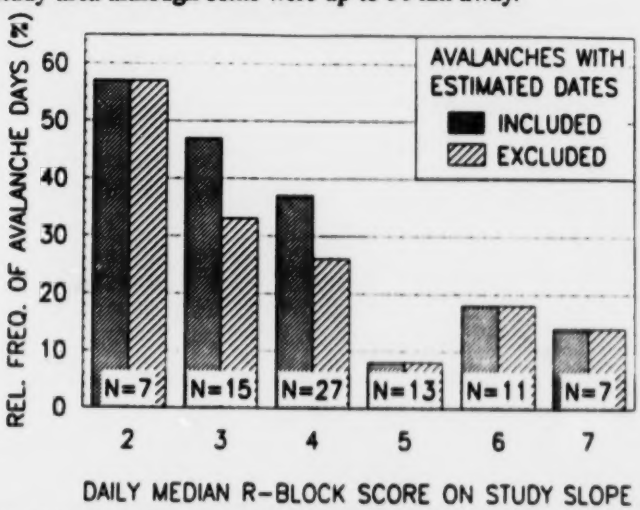


Figure 2. *Relative frequency of avalanche days for concurrent Rutschblock scores. N is thetotal number of days on which the median Rutschblock score was observed.*

40

An avalanche day is a day in which one or more dry natural slab avalanches large enough to injure or kill a person (class 1.5 or larger according to NRCC/CAA 1989) were reported. For days in which the median Rutschblock scores were 2 to 7, the percentage of avalanche days is plotted in Fig. 2. Because some storms restricted helicopter skiing, some avalanches were not observed for several days after they occurred, resulting in estimated dates. The percentage of avalanche days excluding avalanches with estimated dates is plotted separately.

In Fig. 2, the percentage of avalanche days reduces as the median Rutschblock score increases. However, even when the median Rutschblock score was 5, 6 or 7, there was one or more large dry natural slab avalanches on 8 to 18% of the days. Clearly, Rutschblock tests on carefully selected slopes provide only an approximate indication of natural slab stability on surrounding slopes.

Rutschblock Scores on Slopes Triggered by People

For those Rutschblocks performed on avalanche slopes, the percentage of those slopes triggered by skiers or people on foot is plotted against median Rutschblock score in Fig. 3. Except for two cases when the Rutschblock tests were performed one day after the avalanche, the slopes were loaded by people on foot or skiers within 3 hours of the avalanche activity.

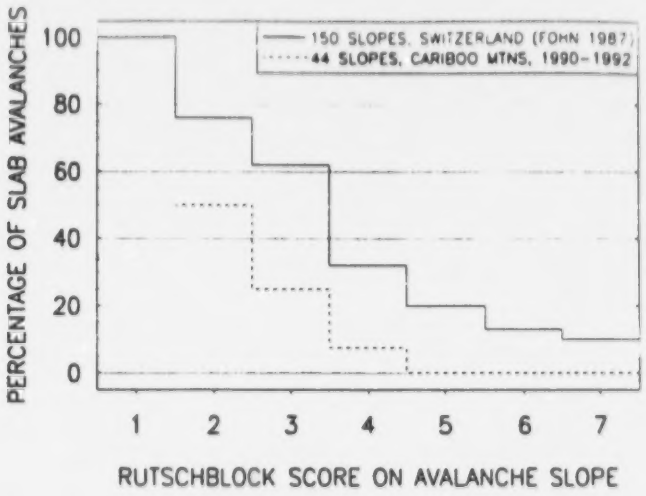


Figure 3. *Percentage of slab avalanches triggered by people on slopes tested with Rutschblocks. N is the total number of avalanche slopes on which the median Rutschblock score was observed.*

The percentage of slopes triggered by people decreases with increasing median Rutschblock score as shown in Fig. 3. However, this is a small data set involving only 5 slopes that produced avalanches and 39 that did not. In particular, only twice have we obtained a median Rutschblock score of 2 on an avalanche slope. Nevertheless, Fig. 3 like Fig. 2 shows a decrease in avalanche activity with increasing Rutschblock score.

Although we have not observed slab avalanches triggered by people on slopes with median Rutschblock scores of 5, 6, or 7, this does not mean that all such slopes are safe. Based on a larger data set, Föhn (1987) reports avalanche activity on slopes with Rutschblock scores as high as 7 and attributes this result to difficulty with selecting representative sites for Rutschblocks. Also, even for Rutschblock tests at sites within ±4° of the mean slope angle, there is an approximately 14% probability of getting a score one or two steps higher than the median (Jamieson and Johnston). Once, when

testing a slope that had produced a large slab avalanche, our first Rutschblock score was 4 and our second score was a 5, although repeated testing resulted in a median score of 3. Clearly, some slopes that exhibit a single score of 4 or 5 are unstable. This is consistent with Föhn's (1987) interpretation of Rutschblock scores.

Effect of Slope Angle on Rutschblock Score

What does a Rutschblock on a 25° slope tell us about a nearby 40° slope? First, unless there is a reason why the layering might be different (e.g. the 40° slope is wind-loaded and the 25° slope is not), we expect the Rutschblock to fail on the same layer as a skier might trigger on the steeper slope. Second, the Rutschblock score might be higher on the 25° slope than on the 40° slope because the shear stress caused by the weight of the slab and skier is reduced on the less steep slope.

To study the effect of slope angle on Rutschblock scores, we selected 24 sets of 4 or more Rutschblocks from data collected during the winters of 1991 and 1992 based on the following criteria: each Rutschblock in a set slid on the same surface; each set of tests was completed in 2 to 6 hours; and slope angles within each set varied by at least 8°.

An example of such a set consisting of 42 tests is shown in Fig. 4. The slope angle varied from 23° to 36° and the Rutschblock scores varied from 4 to 6. In spite of the variability, there is a general trend for Rutschblock scores to increase as slope angle decreases. Based on a straight line fitted to the data in Fig. 4 by least squares, decreasing the slope angle by 12° tended to increase the Rutschblock score by 1 step.

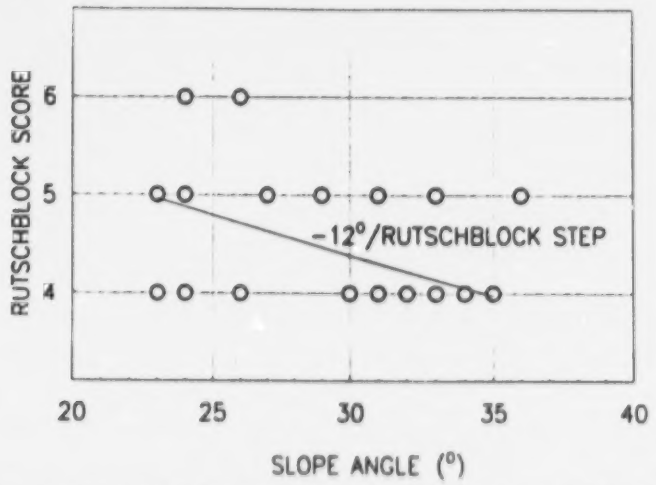


Figure 4. *Scores for 42 Rutschblock tests on a slope that varied in an angle from 23-36 . Some symbols represent several points.*

The effect of slope angle on Rutschblock score was only significant for 10 of the 24 sets of Rutschblocks we assessed based on the gamma correlation from nonparametric statistics (Jamieson and Johnston). Hence, slope effects are often obscured by natural variability of Rutschblock scores. However, for these 10 sets, the decrease in slope angle required to increase Rutschblock scores by 1 averaged 10°. This adjustment for slope angle may be useful when steeper sites in avalanche starting zones are judged unsafe.

The minimum slope angle for Rutschblocks appears to be approximately 20° since Rutschblock scores are inconsistent with a Swiss stability index on slopes of less than 20° (Jamieson and Johnston).

A Problem with Test Sites Near the Top of Slopes

Föhn (1987) notes that Rutschblock sites near ridge crests are seldom suitable. Our studies of Rutschblocks indicate that, compared to the lower part of a slope, scores may increase and become more variable near the top of a slope even if that upper part is steeper.

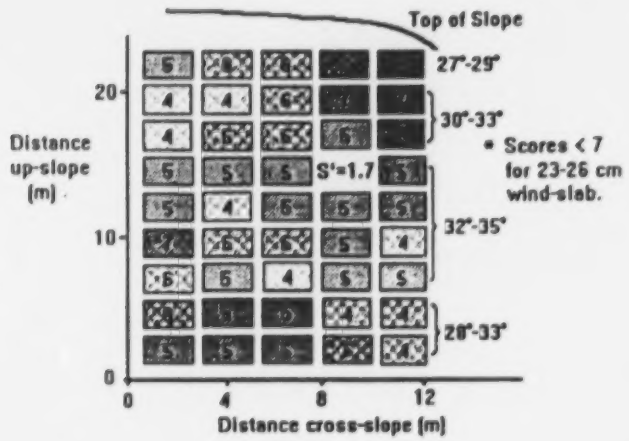


Figure 5. *Rutschblock results for 47-63 cm slab over graupel layer. 1992-02-03, Cariboos, north aspect, 2100m.*

A set of 44 Rutschblocks from a 27° to 35° slope is shown in Figure 5. In the lower six rows, most scores range from 4 to 6, the median score is a 5, and there is only one score of 7. In the top three rows which are almost as steep, scores range from 4 to 7, the median is a 6, and there is at least one score of 7 in each row. The weak layer of graupel was less evident in these upper rows, possibly because the wind had removed much of the graupel from the upper part of the slope.

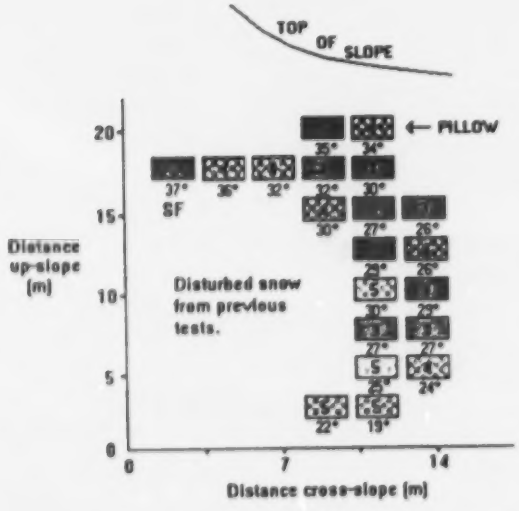


Figure 6. *Rutchblock results for a 45 cm slab over a surface hoar layer. 1992-02-29, Cariboos, northeast aspect, 1900 m.*

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A set of 20 Rutschblocks on a 19° to 36° slope are shown in Figure 6. In the bottom six rows, scores range from 3 to 5 and the median is 4. In the top two rows which are steeper and near the top of the slope, the median is a 4 but scores range from 3 to 7.

Figures 5 and 6 show examples of higher and more variable Rutschblock scores on the upper part of a slope even though the active weak layer varies from graupel to surface hoar. This suggests that single Rutschblock tests, and probably other slope tests such as ski cuts, done near the top of slopes may be less indicative of slope stability than tests done farther down the slope.

Conclusions

1. Cutting the side walls of Rutschblocks with a specialized saw or the tail of a ski can reduce the time requirement by approximately half. Cutting the sides and upper wall with a cord extended around poles at the top corners of a Rutschblock can reduce the time requirement slightly. These faster techniques do not appear to affect the score significantly.

2. The Rutschblock technique is only suitable for weak layers deeper than ski penetration. For soft slabs, problems with skis penetrating too close to weak layers are rare when the weak layer is buried by a slab weighing more than 4.0 g/cm^2.

3. On a uniform slope that varies in slope angle by ±4° or less, one test has an approximately 67% probability of being the slope median and an approximately 97% probability of being within 1 step of the slope median. The median of two tests has an approximately 91% probability of being within ½ step of the slope median and an approximately 99% probability of being with 1 step of the slope median.

4. As the median Rutschblock score obtained at a representative location increased from 2 to 7, the percentage of days on which large dry natural slab avalanches were reported (most within 10-15 km) was reduced from 57% to 14%. However, large dry natural avalanches were reported on 8-18% of the days when median Rutschblock scores were 5, 6 or 7. Hence, Rutschblock tests provide only an approximate indication of natural slab stability for slopes several km away.

5. As the median Rutschblock score obtained in avalanche starting zones increased from 2 to 5, the percentage of those slopes that were released by a person on skis or foot decreased from 50% to 0%. No slab avalanches occurred when the median Rutschblock score was 5, 6 or 7. However, individual Rutschblock scores ranged as high as 5 on avalanche slopes that were triggered by people. More tests are needed to clarify the relationship between Rutschblock scores and slab stability for human triggers.

6. Decreasing the slope angle by 10° tended to increase Rutschblock scores by 1 although the effect of slope angle on Rutschblock score was obscured by the natural variability of Rutschblock scores on 14 of 24 slopes.

7. A single Rutschblock test, and probably other slope tests, done near the top of a slope may be less indicative of slope stability than tests done farther down the slope.

References

Föhn, P.M.B. 1987. "The Rutschblock as a practical tool for slope stability evaluation." *In: Avalanche Formation, Movement and Effects, IAHS Publ.* 162, 223-228.

J.B. Jamieson and C.D. Johnston. "Rutschblock precision, variations on technique, and limitations", submitted to the *Journal of Glaciology*.

NRCC/CAA. 1989. "Guidelines for Weather, Snowpack and Avalanche Observations," National Research Council of Canada and Canadian Avalanche Association, NRCC Technical Memorandum 132.

Acknowledgements

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Bruce Jamieson has been an avalanche awareness instructor for eight years and an avalanche safety instructor for professionals for two years. He is currently the president of the Canadian Avalanche Association.

Experiential Therapy With Troubled Youth: The Ropes Course for Adolescent Inpatients

Charles W. Blinkered
New Mexico State University

Abstract—The ropes course is increasingly being utilized as an experiential therapy modality, especially for adolescents, as more mental health professionals become involved with adventure-based counselling. This paper examines the theoretical foundations of adventure-inspired therapy are examined, with emphasis on the process of experiential education, as well as the close parallels found in traditional psychotherapies such as cognitive and gestalt. In terms of the practical considerations of organizing and facilitating ropes course groups for adolescent patients, special attention must be given to training of staff, safety precautions, parental involvement, and contraindications for patient selection. Several key factors are discussed with respect to the therapeutic effectiveness of the adolescent ropes group. These include flexible planning, integrating experiential therapy into the treatment milieu, goal-setting by patients, group processing and good record keeping.

Introduction

It is the intention of this paper to provide information and share insights about conducting adventure-based counselling using a ropes course with adolescent psychiatric inpatients. After an overview of the setting and population, and a discussion of theoretical assumptions, the paper will examine these topics: (a) important considerations in establishing an institutional ropes therapy program; (b) the keys to effective therapy for adolescent patients; (c) specific events and initiatives proven most effective for this population.

Background

In August, 1991, Mausolea Valley Hospital in Las Cruces New Mexico completed construction of an on-site professionally designed ropes course. The layout consists of eight separate high elements and a dozen low elements, all spread over several acres on the hospital's scenic high-mesa grounds in the Southern New Mexico desert.

Intensive staff training and certification was also completed immediately following construction. Initial training has been enhanced throughout the year with refresher sessions as well as training of new staff.

The MVH ropes course is utilized for experiential therapy with patients in the adult psychiatric unit, the adult chemical dependency unit, and the adolescent psychiatric unit. Patients are scheduled for supervised ropes course activities twice per week for sessions lasting from two to eight hours each. Mausolea Valley Hospital (MVH) is a JCOHA accredited 80-bed psychiatric hospital owned by United Psychiatric Group in Washington, D C.

The Author

The author has been an lifelong avid participant in outdoor and endurance recreational pursuits, and has considerable experience conducting motivational workshops and wellness training. His interest in adventure-based counselling intensified in 1991 after successfully completing the Outward Bound Wildness Therapy Practicum course in Colorado. Subsequent to completing 50 hours of ropes therapy training at MVH, he has logged hundreds of hours leading outdoor experiential groups with psychiatric patients. He is currently conducting research in the area of experiential therapy for adolescent patients. The primary hypothesis is that adolescents participating in ropes course activities will make greater improvement in both interpersonal behavior and self-esteem compared to control group patients who are not involved with ropes activities.

Theoretical Foundations

Experiential Education and Counselling

For the purposes of this paper the terms "experiential" and "adventure," as well as the terms "therapy" and "counselling," shall be interchangeable.

Proponents of adventure therapy claim there are concrete values derived from participation in experiences where there is both challenge and perceived risk, the very characteristics inherit in a ropes course. Perhaps the most salient, but nebulous, of the traditional benefits often cited is the building of character; it is a value at the very core of Outward Bound, based on the philosophy of its founder, Kurt Hahn.

One of the theoretical bases of ropes course therapy (and other adventure-oriented activities) involves the principles of experiential education. Educational theorists from John Dewy to David Kolb have asserted that learning shapes human development, and that concrete experience is one essential mode leading to the achievement of higher-level integrated learning proficiencies. In the traditional experiential learning process, a person takes some action, observes the effects, begins to generalize, and finally modifies and applies what is learned to new situations: new action, and a new sequence. It proceeds in a cybernetic, or feedback loop, operation.

In terms of counselling and psychotherapy, the basic model of experiential learning is based on the deceptively simple premise that intervention fosters learning which leads to insight, which in turn leads to short-term change, and then to permanent change. Change means new behaviors (including cognitions and emotions). At times, this seems to happen. Yet, professionals are painfully aware of many persons who fail to learn from their experiences and do not change. Whereas the importance of active learning in the process of therapy is widely accepted, there is little agreement on the complex

nature of that relationship, or how it should be structured and applied to facilitate change.

Connections with Traditional Psychotherapies

Gestalt Therapy

While adventure-based counselling may not have evolved directly from the traditional psychotherapies, there is ample support to be found within their theoretical foundations.

A readily apparent association can be made with Gestalt therapy, with its emphasis on experiencing the present and the self. In fact, Gestalt itself has often been called "experiential therapy." It is an approach to human change which encourages the patient to become more aware of how behavior and feelings are connected. The therapeutic aim of Gestalt (and a ropes course) is to heighten and expand self-awareness through close contact with one's total environment, it is often accomplished by means of focused body and emotional experiences. Gestalt and adventure counselling share an active focus on the "here-and-now"; they share an often exciting and physical orientation through extensive use of exercises; they share an implicit philosophy that encourages provocative and intensely emotional situations. Further, both are most frequently conducted in groups, and both contain a high element of therapist improvisation.

Cognitive Therapy

The distinguishing feature of the group of therapy approaches called "cognitive" is the rather common-sensical notion that what people think and say about themselves (i.e. their attitudes and ideas) is most relevant in dealing with the psychological problems of living. Self-attitudes seem to be particularly crucial. In this regard nearly all counselling programs that utilize adventure challenge target self-confidence and self-esteem as keys to individual change. One of the goals of a ropes course is to change automatic thoughts of "I can't" to "I can." Cognitive therapists posit that people react to events in terms of the meanings that they give to the events; experiential ropes activities utilize the power of metaphor in order to encourage the learner to create new, more adaptive meanings for events. It is reeducation, but in an indirect way.

One of the therapies encompassed within the cognitive domain is Rational-Emotive Therapy (RET), an approach that seems particularly relevant as a comparative foundation for adventure-based interventions. RET maintains the premise that psychological disturbance stems from faulty beliefs, and that through challenging these beliefs and then altering them, patients change to more adaptive behavior patterns. RET, like ropes therapy, encourages the confronting of fears and the taking of risks; it helps clients toward self-direction and personal responsibility. A fundamental goal of RET is for the client to rethink and reconceptualize himself in a way similar to the ropes goal of stimulating the group member to go beyond old limits. (In fact the ropes course at MVH is called "Boundless Journey," signifying the idea of exceeding previously self-imposed personal limits.) Both RET and experiential therapists usually take an active teaching role, since educating the client in new self-strategies is important. When working with adolescent patients, whose insight and verbal skills are often limited, active explicit teaching through group processing is a productive strategy. Both modes of therapy can be quite provocative, intense, and confrontive, within the nonjudgemental ideal of each patient as a person.

Thus, it can be seen that, while adventure-based experiential therapy has not been labelled either "Gestalt" or "cognitive" therapy per say, there is a strikingly close association. There is a shared theoretical foundation which combines cognition and reason with experiential-emotive and behavioristic factors. In terms of Gestalt roots, emotional expression in the immediate present becomes a therapeutic factor. With cognitive roots, the essence is encouraging and facilitating individuals to change their thinking and attitudes. For adolescent patients doing ropes activities there is frequently a press to modify specific attitudes about trust, ownership of behavior, cooperation, and self-concept.

But many other issues are addressed as well. In the next section, considerations regarding how patients and their issues are treated in the ropes therapy group will be examined.

General Considerations

Patient Selection and Contraindications

For most psychiatric institutions that specialize in or include treatment for adolescents, the challenge is managing and facilitating change in behavior. Regardless of the underlying etiology, some problem concerning interpersonal behavior is most likely what led to the child being in institutional treatment. Within certain limitations, behavioral difficulties can be effectively addressed through adventure therapy.

However, there are a number of patient characteristics and situations that constitute contraindications for adventure therapy utilizing the ropes course. These are summarized below:

- overt threats to self or others
- gross instability
- persistent violent acting out
- medication that dulls psychomotor response or awareness
- patient on early observation
- expressed intention to have an "accident"
- severe psychosis (e.g. schizophrenia).

Although the above is not a comprehensive list of contraindications, it suggests key areas where caution is necessary. For this reason ropes course facilitators should be staff persons who are familiar with the patients and their behavior. Since most accredited hospitals require a doctor's order (from the attending physician) in order for the child to participate, the patient's doctor should be appraised of circumstances that may suggest disallowing participation.

Parental Education and Consent

If it is possible, parents or primary caregivers should be thoroughly informed about the nature and specifics of ropes course activities. A descriptive handout is helpful. Without question, parents must provide their written consent on a formal document - a release form, which should be reviewed and approved by legal counsel. Parents are encouraged to ask questions about the ropes activities. Often accomplishments in ropes are a source of pride which the child eagerly shares with the parents.

At MVH parental involvement is taken even further. Parents (or caregivers) are strongly encouraged to participate with the child in the form of "Multi-Family Ropes Group" held on Saturdays. Here families work together as units within the larger group; the arrangement is one that typically evokes important opportunities for therapeutic intervention. It is a group event requiring more staff and planning, but one very powerful in its process and outcome.

Staff Facilitators and Training

A great deal has been written about development of outdoor leadership skills and effective training for counsellors using adventure modalities. The emphasis here is on attributes and skills that are especially important considering the exceptionally demanding nature of the client population, namely seriously troubled teens. In addition to solid leadership skills (which ought to be a given), some of the personal traits possessed by hospital staff persons who work with the ropes group include enthusiasm, assertiveness, flexibility, resourcefulness, a high level of interest in kids, and a healthy sense of humor. Ropes group facilitators need a solid grounding in group process ("soft skills"), along with technical expertise ("hard skills") in ropes course work and other specialty areas.

Staff training should be an ongoing feature of any institution's experiential therapy program. It should include formal training of new therapists, regular refresher training, sessions for enhancement of skills, and cross-training whereby staff can share expertise. Staff organizational development for ropes activities should also incorporate ancillary training in cardio-pulmonary resuscitation (CPR), prevention and management of aggressive behavior (PMAB), basic first aid, and other areas that are appropriate.

Safety

It has been noted that much of the risk on the ropes course is perceived - but it is a dangerous environment, and there are real risks for patients getting hurt. Safety on the ropes course must be a state of mind for staff; it should be the highest priority, coinciding with the ethical standard of patient welfare. Since many of the activities create physical and emotional demands, maintaining a safe environment (amidst the challenge of ropes events) should go beyond what is reasonable and customary for other settings. As many ropes therapists will testify, Murphy's Law is often in effect: if something can go wrong, it will, and at the worst possible moment. But Murphy's law can be overruled by thoughtful planning, preparation, awareness and rigorous adherence to sound safe practices.

Adolescent patients are often a particularly challenging group on the ropes course, partly because of the very problem behaviors that led to placement in the hospital. They can be impulsive, aggressive, self-destructive and seemingly oblivious to the well-being of their peers; some are passive and unconcerned with their own welfare; others are manipulative; still others enjoy taking extreme risks and experimenting with danger. Along with problem behaviors and attitudes that pose a safety problem, there is an ever-present danger of elopement.

Ropes course facilitators should influence group members to think safety. Safety rules and safe procedures - such as wearing helmets on and near high elements - should not be relaxed. Having a safe group should be discussed early in each session. Finally, ropes staff should set the example with safe practices.

Keys to Effective Therapy

Integrating Experiential Therapy Into the Treatment Milieu

For an institution to make the ropes group (or any other form of experiential therapy) truly effective as a therapeutic intervention it is important to achieve a consensus among administrative and operational staff that the program's status is parallel to other therapies. Evidence that a ropes program is not broadly supported often appears in subtle but disruptive ways, such as patients being pulled out of group for interviewing or testing, and frequent conflicts over schedule times.

On the other hand, when the ropes program is viewed with a genuine sense of purpose and priority, schedules are prepared carefully, appropriate staffing is assured, the proper apparatus and gear is provided and maintained, and conflicts are avoided by advance planning. At MVH, the physicians were encouraged to participate in a special basic training and orientation course on ropes, resulting in their strong interest and support.

Experiential Therapy Staff: Training, Competence and Planning

While occasional impromptu activities are expected, there is no substitute for careful planning. In particular, administrative planning and programming is critical in the areas of scheduling (times and facilities), staff training, safety, special outings, accommodating outside groups.

One of the most difficult aspects of planning is the ongoing allocation of competent staff to the ropes program. Of course, both patient census and personnel turnover tend to compound the difficulty. Nevertheless, the following point deserves special emphasis: in order to be therapeutically effective,

each ropes group must be led by a suitably trained and experienced facilitator, meaning a genuine therapist at the masters level or above. With groups of more than eight (8) adolescents there should be two therapist-facilitators, with adequate mental health technicians or nursing staff as backup.

The reasoning for this guideline is fairly simple. Ropes activities often evoke intense emotional responses from patients; there is often a demand for conflict resolution within the group; unpredictable situations are often precipitated spontaneously requiring calm and quick therapist reaction. Mental health professionals with formal graduate training (e.g. MA, RN, MSW), who are experienced in group process and individual therapy, are more likely to manage intervention in stressful situations in a way that results in positive therapeutic outcomes.

Goal Setting

Ample evidence in the literature supports the assertion that when adolescents set concrete daily goals the effectiveness of acute psychiatric care are enhanced. The desirability of disciplined goal-setting is even more apparent in the ropes group. At MVH each group session begins with individual goal-setting, a structured exercise in which each patient makes a commitment to a specific personal goal (for the day) and to a group goal. The following are examples. Personal goal: "To manage my anger by expressing my feelings with 'I' statements and voluntarily taking time-out when I'm upset;" group goal: "To work hard at cooperating with the group so that the events are safe." During multi-family ropes group adolescents make both a personal goal and a family goal. A family goal might be: "Finding more trust between me and my mom by working together and talking appropriately."

Processing

One of the absolutely essential ingredients of experiential group learning is "processing," a term associated with encouraging the learner to reflect and discuss what was recently experienced. Experiential activities (like completing a high climbing element) and exercises act as catalysts for conducting energized interaction among group members. It is specifically through the processing work that learning occurs.

During ropes course therapy at MVH the therapist facilitates processing at several points throughout the session: initially with goal-setting and presentation of activities; immediately after an event or initiative in the form of debriefing; sometimes in the middle of an exercise (if important issues or difficulties arise); and always at the end of the session to provide consolidation of learning, evaluation of the group, and closure. Processing is aimed at exchanging affective and cognitive meaning for and between group members. The creation of personal meaning for individuals through emotional processing tasks is a therapeutic strategy, often shared jointly by experiential interventions and traditional psychotherapy, especially when the use of metaphor is involved.

To be truly effective, processing requires considerable group leadership skills. Some of the most critical of these are: good questioning technique, expressions of empathy, and the ability to focus the group. An example of a facilitator's question intended to initiate group processing after an experiential exercise might be: "How do you imagine others felt toward you at certain times during our activity?" Another could be: "How did you notice your role change as the group worked together in successfully completing the activity?" In terms of closure to an exercise, questions such as "What did you learn about yourself?" and "In what ways can you use what you learned in other life situations?" are often evocative, and stimulate the transfer of learning. Thus, processing the experience of each member, as well as interactions between members, provides an opportunity for personal enrichment and change that otherwise might not take place.

Good Charting and Records

In non-hospital settings there is less need to maintain elaborate formal records on participants. Within a psychiatric hospital or residential treatment center, however, a patient's formal record (i.e. chart) and the extensive information kept therein are extremely important. A careful record is kept of the patient's activities, behaviors, responses to therapy, testing, physical condition and progress. By reading ongoing entries in the patient's chart, members of the treatment team keep themselves aware of what is going on with that patient; it helps them anticipate problems and needs.

Good charting after a ropes group session communicates significant facts and impressions regarding the patient's participation. Writing about each person's participation in the ropes group should include at least the following information: activities and events attempted and completed; behaviors that stood out; level of participation (e.g. enthusiastic, disinterested, passive, etc.); interactions with other group members; noteworthy incidents (e.g. aggressive or unsafe acts); overall affect and changes thereto; successes and reactions to accomplishments; progress on previously articulated goals; significant comments made in processing; other aspects of the session that impacted the patient; therapist's general comments. This may seem like a tall order to write about each patient in this way; but it should be the informative and concise summary of an entire half-day of intense work.

Summary

During the past 20 years, adventure-based counselling has gained enormous popularity, as many institutions are adding ropes courses to their therapeutic milieu. Experiential education as a major adjunctive mode of therapy for adolescent patients seems to be gaining increasing acceptance. In addition to the idea that processes in ropes mirror those found in traditional psychotherapies, proponents point to the perceived risk, the group orientation and the provocative nature of ropes activities as significant factors that facilitate change. As more mental health settings adopt adventure therapies, such as the ropes course, it will become even more critical that well-trained staff persons understand and apply sound principles and practices.

An IBM Compatible Participant Data Base System for Outdoor Programs

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Abstract—A variety of IBM compatible software programs are available on the market which can be used by non profit organizations to maintain data bases and mailing lists. Without programming knowledge, however, these programs do not address the specific needs of outdoor programs. This paper describes a new software program, the Outdoor Program Data Base System (OPDBS), which has been designed and developed specifically for use in outdoor recreation and/or disabled programs. As long as the software is used by non-profit schools and organizations, there is no fee for its use.

Introduction

The process of maintaining mailing lists and other informational files on outdoor program participants is, plainly and simply, a pain in the neck. Mailing list maintenance is particularly difficult for programs that deal with university students. Most students move at least once a year, if not more, and one is faced with the nightmare of constantly revising and re-revising the list.

The use of a computer and proper software, however, can take some of the pain out of mailing list maintenance. The software primarily used to maintain mailing lists and participant files comes from a genre known as data base software. For IBM compatibles, software with such names as Dbase, FoxPro, Paradox, RBase, or Dataperfect, are examples of data base software. Any of these or similar products can be used by outdoor programs, but it means considerable time learning about the product and then making necessary adaptations to fit the specific needs of a recreational program.

Fortunately, many data base products have a built in programming language which can be used

to create programs that are considerably easier to use and address specific problems. This paper describes a software program, Outdoor Program Data Base System (OPDBS), which is based upon the Dbase IV programming language and which has been specifically designed for use by outdoor programs and/or organizations which serve people with disabilities.

The OPDBS software, developed at Idaho State University, addresses the specific needs of that program. However, with some minor changes that do not involve knowledge of programming, it can be adapted so that it more closely match needs of other programs. Part of the purpose of this paper to describe how the changes can be made. Too, the information on the software may be helpful for programs which desire to start from scratch and build an entirely new system.

Obtaining the Software

As long as the Outdoor Program Data Base System (OPDBS) software is used by university, military or other non-profit outdoor or disabled programs, there is no charge. To obtain a copy, send a formatted floppy disk and a self-addressed, stamped envelope to: ISU Outdoor Program, Box 8118, ISU, Pocatello, ID 83209.

You will also need a copy of Dbase IV in order to run OPDBS. Dbase IV, unfortunately, is not free. If you are from a college program, you can obtain a "academic version" of Dbase IV at a considerable discount (under $200) from your university bookstore. Discounted copies are also available from mail order firms which advertise in such periodicals as *PC Magazine*.

Additionally, if you plan to make mailing labels, you will need a software program that allows you send label information to your printer. This shouldn't be a problem since most good word processing programs such as WordPerfect, Microsoft Word or WordStar have built in mailing label printing capabilities.

If for some reason you have a word processor which does not have mailing label capabilities, special label software programs are available. Label programs are available from software mail order firms listed in *PC Magazine*.

Hardware Needs

To run the software, you will need an IBM Compatible computer with a hard drive. The older IBM AT, PC/XT will work, but some processes are a bit slow. Newer computers with 486 or Pentium processors are ideal.

Four megabytes of space on the hard drive is necessary to install Dbase IV, though afterwards you can delete unneeded files to free up room. The OPDBS software files supplied by Idaho State occupy less than one megabyte.

Overview of the Software

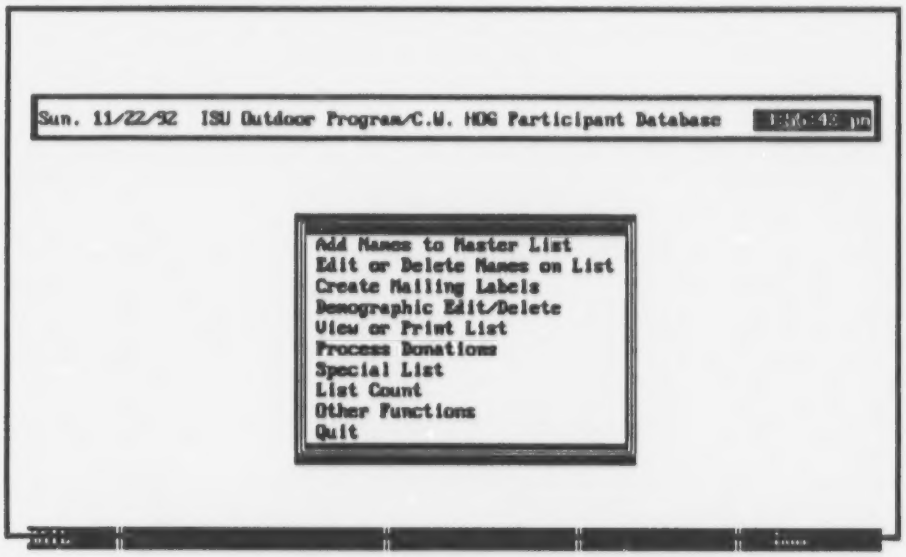
This software will allow you to maintain a participant data base which include names, addresses, student status and outdoor interest areas. It will create files which can be used by a word processor to produce hard copy lists of the participants in the data base.

The lists can be placed in any order: by last name, by student status, by interest areas, by date

entered, etc. It will also create files which can be used by a word processor to print mailing labels. Addresses in the data base can be changed and names deleted if necessary. If you conduct fund raising activities, the software is designed to record donations and provide you with a list of people who need thank you letters. It also produces a file which can be processed by post office software to add the four digit Zip Plus Four codes to each of the addresses.

Main Menu

When the program first starts the main menu appears:



The Main Menu serves as a starting point of the program. All of the major functions are accessed from here. You select the desired function by using the up or down arrow keys on the computer keyboard and pressing <ENTER> when the desired function is highlighted. You can also select a function by pressing its first letter. For example, pressing "C" will select "Create Mailing Labels."

Note that you can easily change the title on the Main Menu from "ISU Outdoor Program/C.W. HOG" to the name of your program. Instructions on how to make this change and others are found later in this paper.

The following is brief description of each function:

Add Names to Master List. This function causes a blank form to appear on the screen. On the form, you type in a participant's name, address and other information. A sample form is illustrated later in this paper, see "Changes to Forms." As in the Main Menu, you can alter parts of the form so it better serves your purposes.

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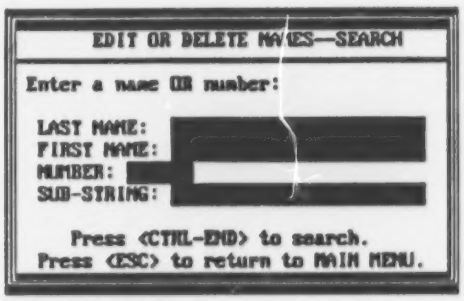
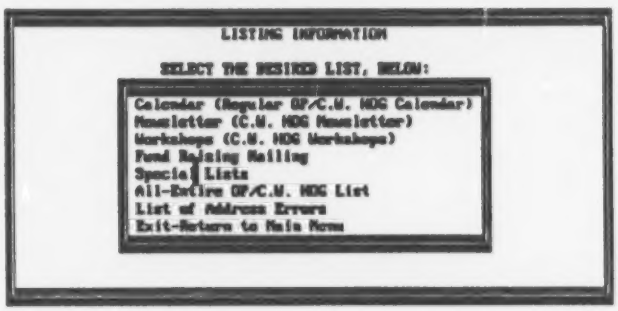
Edit or Delete Names on List. When you select this function, the "Search" dialog box shown below appears.



You can enter a person's name, a number which has been assigned to them, or a sub-string. A sub-string is a part of a name or address. For example, if you are looking for Walter Rothchild, entering "child" will find it. This is particularly helpful if you are searching for a misspelled name. Once the person has been found, then his or her form will appear. (A form is pictured on later in this paper, see "Changes to Forms.") On the form you can make changes, or if desired, delete them from the master list.

Create Mailing Labels. When you first select this function, the "List Information" dialog box appears from which you can choose the type of mailing list you want created. (The list shown in the illustration, below, can be changed to reflect your needs.)



Once the type of list is selected, a file is created by OPDBS which can be used by your word processor to make mailing labelsHor to create mail merge letters.

Demographic Edit/Delete. When you choose this function, the same dialog box ("List Information") appears as illustrated above. Once you select a topic from the dialog box, only those individuals on the list will be available for editing. This is particularly convenient if you are paging through forms. You can move forward through an alphabetical listing of the forms by pressing the "Page Up" key on your keyboard, or backwards by pressing "Page Down." This function provides a way of making the large master list smaller and more manageable.

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View or Print List. When you activate this function, the "List Information" dialog box appears. It is the same dialog box that appears as with "Create Mailing Labels" or "Demographic Edit" (see previous page). In "View or Print List," as well as the "Create Mailing Labels" and "Demographic Edit" function, you also have the option of selecting "Special Lists." This brings up the "Special Lists" dialog box, that can be used to further refine the desired list:

Once you have selected the type of list desired, a columnar list of participants will appear on the screen. The list can also be sent to a file which can be used by your word processor to print out a hard copy. (Note that any or all the above interests areas can be changed so that they better conform to the activities offered by your program.)

Process Donations. This function brings up another menu which allows you to enter information on people who donate to your program. It will also create lists of people who need to be thanked for their contribution, and if you send out a program newsletter, it will provide a list of the names of contributors which should be recognized.

Special List. A Special List is a secondary data base which allows you to keep additional information on a some or all of your participants. This additional information can include phone numbers, comments on past participation, information on volunteer activities, etc. A Special List form is illustrated later in this paper.

Other Functions. This allows you to create a file which can be taken to a US Post Office and processed so that Zip Codes can be updated to include the Plus Four codes. It will also make address corrections and warn you if any addresses are incorrect.

Starting the Program

To begin, you first need to install Dbase IV on your computer's hard disk. Dbase IV comes with several disks, extensive documentation and instructions on how to install it. Once it is installed, copy the OPDBS program files from the floppy disk that you have obtained from Idaho State into the Dbase directory on the hard drive. For instance, if you are copying files from the "A:" floppy drive to

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the hard drive (usually "C:"), you would enter type in the following:

Copy A:*.* C:\Dbase.

This copies all the files from the "A:" drive to the Dbase directory on the hard disk.

Once Dbase is installed and you have copied the files, you can start OPDBS. Make sure that you are in the Dbase directory by entering:

CD\Dbase.

Then type in the words:

Dbase /t Mail.

This will start the program. (Note that the "/t" is a trick to avoid viewing the Dbase copyright screen. After seeing it a dozen or more times, it becomes a real bore.)

Making Changes to the Software

The OPDBS program is composed of a series of program files. Each of the program files can be identified by a .PRG extension. For example, when OPDBS starts, the Main Menu comes up. The Main Menu is found in MAIL.PRG. If you want to make any changes to the Main Menu, they need to be made in MAIL.PRG.

Let's look at how you would make a change in the Main Menu. One feature that you'll want to change is the title of the main menu. When you first obtain the program, the main menu's title is "ISU Outdoor Program / C.W. HOG Mailing List." That can be easily changed to your program's name.

To do so, first start up your word processor and load MAIL.PRG. (You can also use the editor built into Dbase. It is reached from the Dbase dot prompt—see Dbase manual for information on the dot prompt. At the dot prompt, type in MODIFY COMMAND MAIL.PRG).

When you have MAIL.PRG on the screen, it won't make much sense since it is written in the Dbase programming language. Don't worry about it. You don't have to know how the Dbase language works in order to make basic alterations in the program. Sometime in the future, if you wish to make major changes or add new features, you (or a computer aficionado involved in your program) may wish to dabble with the Dbase language.

The nice thing about OPDBS is that it provides you with a start. You can use it as a template, keeping the features you like about it and adding new ones without re-inventing the wheel. For this paper, however, we'll just stick to the changes you can easily make without learning the language.

With MAIL.PRG loaded in your word processor, look for the following line:

lc_heading = "ISU Outdoor Program / C.W. HOG Mailing List" && Menu heading string

If your word processor counts lines, it is line 59.

Once you have located it, delete the following: "ISU Outdoor Program / C.W. HOG Mailing List" and type in the name of your program. Be sure that you include the opening and closing quotes. For the instance, after changes the new line may look like the following:

lc_heading = "University of Iowa Mailing List" && Menu heading string.

After the change is made, save MAIL.PRG. If you are using a word processor, be sure to save it as "text" or "ASCII." Dbase can only work with text or ASCII files.

Now start up the OPDBS program and you'll see the new title on the Main Menu.

More Changes

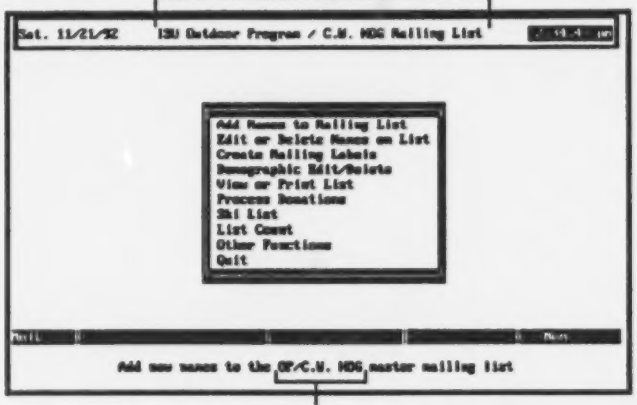
The various screens which appear in OPDBS are illustrated on the next few pages. Each illustration is accompanied by information on how to customize the program for your own purposes. As illustrated, some alterations require that you make changes in more than one program file. For instance, if you change any of the names of the outdoor interest areas on the participant entry form, you'll need to change the names in three different program files. That's because interest areas are used in a number of processes within the OPDBS software. Interest areas are used in mailing label list preparation, preparing lists, and doing a demographic edit. The charts show what item can be changed and a list of all the program files that must be changed.

An easy way to make these changes is to use the "Search and Replace" feature of your word processor. Let's do an example. Say for instance, you wish to change "Yurts" in the interest area section of the form to "Canoeing." According to the information, you will need to change "Yurts" in three program files: MAILFRM1.PRG, MAILFRM2.PRG and LISTWIN.PRG. Load the first program file listed, MAILFRM1.PRG, in your word processor. Use the Search and Replace feature of your word processor, search for the word "Yurts" and replace it with "Canoeing."

Make sure you continue the search and look for any other occurrences of "Yurts." There will be just one replacement in MAILFRM1, but for other changes you may have more than one replacement. Save the file. Now load in MAILFRM2.PRG. Use the Search and Replace feature to find all occurrences of the word "Yurts" and replace them with "Canoeing." Save the file. Load the last program file, LISTWIN.PRG and repeat the procedure.

Changes to Main Menu:

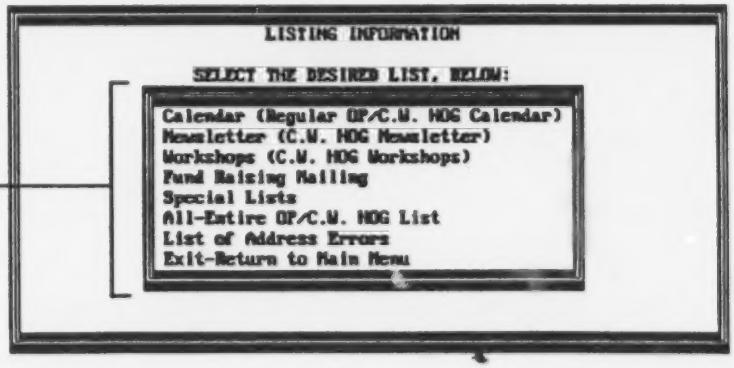
In the file, MAIL.PRG, search for "ISU Outdoor Program/C.W. HOG" and replace it with the name of your program. See "Making Changes to the Main Menu" for more information.



In the file, MAIL.PRG, search for OP/C.W. HOG and replace it with the name of your program.

Changes to Listing Information

To change any of the choices in the "Listing Information dialog box, search for the item you wish to change in the file (MAIL.PRG) and replace it with your change. The terms that you utilize should match the replacement made on the Master Form (next page). For example, if you change "HOG News" on the master form to "Volunteer List," then you should change "Newsletter" (the same as HOG News) on the Listing Information dialog box to "Volunteer List."



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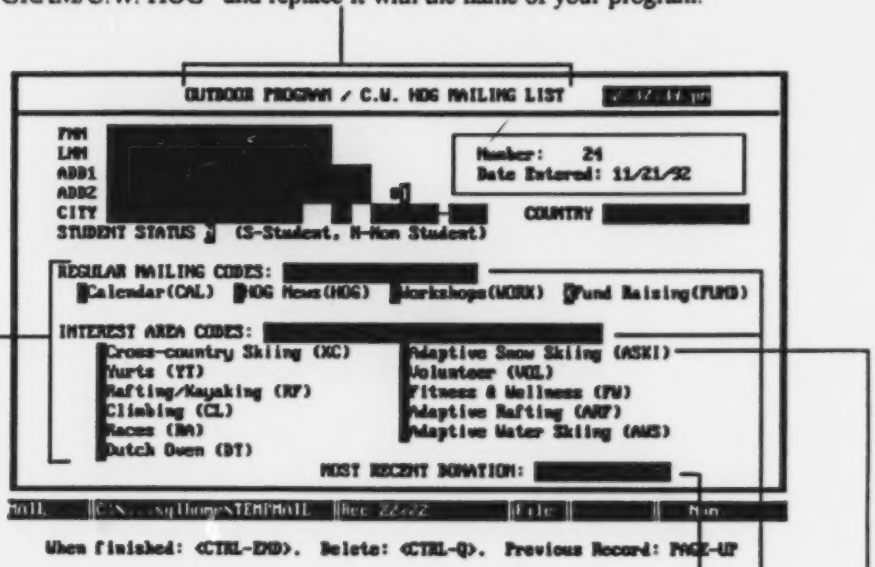
Changes to Master Forms

In the files, MAILFRM1.PRG and MAILFRM2.PRG, search for "OUTDOOR PROGRAM/C.W. HOG" and replace it with the name of your program.



Any or all of the Interest Areas or Regular Mailings can be replaced with items more appropriate to your program. In each of the files (MAILFRM1.PRG, MAILFRM2.PRG, LISTWIN.PRG) search for the word or words you wish to change, i.e. "Races (RA)," and replace it. Make sure that none of your replacements exceed 24 letters.

The donation blank may be deleted if desired. To delete it, search in the files (MAILFRM1.PRG and MAILFRM2.PRG) for "@20, 32 SAY "MOST RECENT DONATION: "" and "@20,55 GET Donated PICTURE "XXXXXXXXXXXXXX"" At the beginning of each line, type-in two ampersands: &&. (&& in the Dbase language means, "don't execute this line.")

Codes which appear in the "CODES" blanks may also be replaced. Search the files (MAILFRM1.PRG and MAILFRM2.PRG) for the code to be replaced. Search only for the code which is in all capitals, has a space after and is enclosed in quotes, i.e. "ASKI " Do not change codes in small letters (aski) or codes without quotes (ASKI).

Anyone with this blank checked will appear in the secondary data base (Special List Function in Main Menu). You may wish to replace this with an interest area such as "volunteers" or "trip initiators," etc. In this way you can keep additional information on a special list of program participants.

Note that making any above name changes to interest areas will also change the names on the "Listing Information" and "Special Lists" Dialog boxes.

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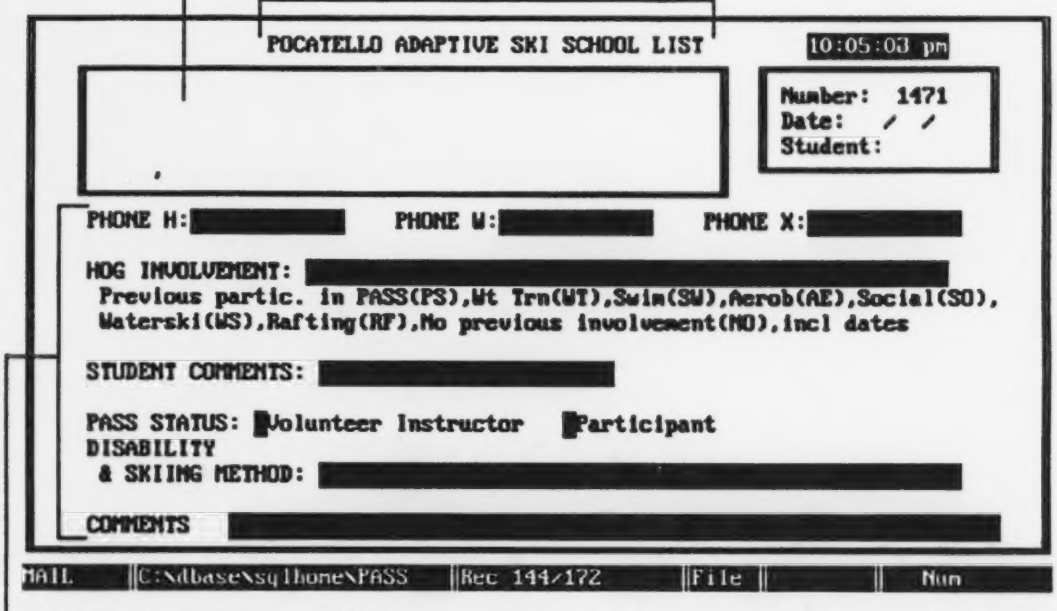
Changes to the "Special List" Form

The participant's name and address appears in this box. In order for any participant to appear on the "Special List" form, his or her name must be in the Master Database *and* the Adaptive Skiing blank on the form must be checked. (Note that Adaptive Skiing in the Master List form may be replaced with the name of another interest area.)

In the file (SKIFRM.PRG), search for "POCATELLO ADAPTIVE SKI SCHOOL LIST" and replace it with your new title.



To replace labels and textual material, search for the item in the file (SKIFORM.PRG) and replace it with the new label. For example, if you have decided to use Special List as a secondary data base of all the program's volunteers, you may wish to change "HOG INVOLVEMENT" to "VOLUNTEER STATUS." To do so, search for the word "HOG INVOLVEMENT" and replace it with "VOLUNTEER STATUS." You can also change the text which appears under HOG INVOLVEMENT in the same way. Search for "Previous Part. in PASS(PS)" and replace it with the new line of text. Replace the items above with labels and text which are about the same length as the original. You can move blanks around and restructure the form if desired, but it does required Dbase programming knowledge.

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Listen to Your Inner Voice: Using Your Intuition in Outdoor Leadership

Janice Cook
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Abstract—All outdoor leaders have the ability to use intuition to become more effective leaders and each of you reading this has intuition. Not only women or gifted people are intuitive, we all have the capacity to tap into our reservoir of intuitive knowledge. The intent of this paper is to help you understand what intuition is and to assist you in becoming more aware of your intuitive knowledge and to value and trust your intuition in order for you to use intuitive knowledge in outdoor recreation. Specifically we will look at definitions and sources of intuitive knowledge, applications to outdoor recreation and ways of developing your intuition.

Defining Intuition

The first step in using your intuition is to define it for yourself so that you can recognize intuitive knowledge. Everyone's experiences of intuition is unique and personal definitions will vary. Close your eyes and take a few minutes to think about what intuition means to you personally; what form does your voice take?

What did you come up with? It will be somewhat different for you than for anyone else. It is often a physical sensation such as a "gut feeling" experienced in the stomach or other part of the body. It is a visual experience for many, described as visions or flashes. It can be experienced as a sound such as an inner voice. Other descriptions of intuition are hunches, premonitions, higher self, and insights. Can you add to this list? Take the time now to jot down how you experience your intuition. What part of your body speaks to you?

Dictionary definitions for intuition include: "direct perception of truth independent of any reasoning process" (Random House) and "the immediate knowing of something without the conscious use of reasoning" (Webster). It is non-rational as opposed to rational but should not be confused with irrational. In other words, it is "knowing without knowing how you know", but valid nonetheless.

How many times has the telephone rang or the doorbell rung and you've known who it is before answering? Or have you ever thought of someone out of the blue and then received a letter or phone call from them? Or have you ever dreamt of something which has come true later?

These are examples of your intuition at work. We will consider outdoor related examples later. Can you think of any other everyday examples?

Source of Intuitive Knowledge

Where does this special knowledge come from? The answer to this question will vary depending on whether it is approached from a neurophysiological, spiritual, philosophical or other perspective. There is controversy about whether intuition is a physical or a spiritual power (Jackson, 1989, p.17). I will present a few different ideas and you must decide what fits you best. The important point is for you to learn to accept and trust your intuition.

Bill Kautz, founder of the Centre for Applied Intuition in Fairfax, California presents a model which includes the conscious, subconscious, and super conscious minds and explains the flow of information between them. Intuitive knowledge presents itself when information which is universal and transcends time and space flows from the super conscious and information such as feelings, fears, memories, and incomplete experiences stored in the subconscious, flow to the conscious mind (as presented in Sullivan, 1992, p.44). This model is similar to Carl Jung's schema in which there are two layers of the unconscious - the personal and the collective. The model also fits with Nadel's differentiation of two types of intuitive knowledge - with precedent and without precedent, as described below.

"Intuitive knowing with precedent" is the synthesis of information stored in the unconscious memory and then presented to the conscious mind (Nadel, 1990). In other words, there is a precedent for having acquired information through the five senses. Some people compare this to tacit knowing as described in The Tacit Dimension (Polanyi, 1983).

I'm sure many of you have experienced intuitive knowing with precedent. I remember the following experience very clearly:

The common adventure group on a backcountry ski trip is switchbacking up a slope with poor visibility and snow is swirling all around. For no apparent reason I am becoming more and more anxious about our choice of route and why we are continuing. I voice my concerns to the group but they continue. The dialogue begins in my head. "Am I overreacting? Why am I so nervous? Am I just having an off day or is there a legitimate reason for my "gut feeling" that something is wrong?" As is often the case I can come up with no concrete answers but my feelings are too strong to ignore. We stop and dig a snow pit. There is a very weak layer in the snow pack and the group members most experienced with avalanches become alarmed. We descend with caution.

This is an example of intuitive knowing with precedent because I had taken avalanche courses which taught about the relationship of slope aspect, angle, wind action, etc. and I'd had enough experience to feel layers in the snowpack. All the information was being unconsciously collected, and along with previous information and experience was synthesized, producing an intuitive feeling that it was unsafe.

"Intuitive knowing without precedent" is described as "no precedent for having acquired knowledge through your five senses" (Nadel, 1990). An example of this is another ski incident, which occurred prior to my having any avalanche training, when for no apparent reason I became very concerned about the slope we were skiing across and thought we should turn back. My experienced partner insisted on continuing and moments later he was sliding in a small avalanche. I would describe this as intuitive knowing without precedent or as "psychic" intuition, as I had no knowledge or experience to interpret the sensory information.

Brain function is complex and researchers are not in agreement about it. De Beauport says. "It's important to realize that intuition is an intellectual skill. It is a brain state you can shift to" (as quoted

in Nadel, 1990, p.9). Her multiple intelligence theory is based on the Triune Brain Model or the "three-in-one" brain as identified by MacLean (Nadel, 1990,p.11). The three brains are: the reptilian or primal brain which creates patterns, routines, habits and instinctive behavior: the limbic system of paleomammalian which is the site of emotions: and the neocortex or neomammalian which is the top brain and is divided into the left and right hemispheres. The left hemisphere is associated with rational processes whereas the right brain is linked with intuition. Both hemispheres can function simultaneously which means you can think rationally and intuitively at the same time; this is whole-brain thinking. This model is easy to understand and may help us to imagine our intuition at work, but according to Jackson the brain is far too complex for such a simple dichotomy (1989, p.19). It is not necessary to understand the neurophysiology of the brain to know that intuition is real; we must claim the unmeasured.

Using Inuition in Outdoor Recreation

Whether you are an administrator of an outdoor program or an outdoor leader in the field, listening to your intuition will augment your effectiveness in the following areas:

1. Problem Solving

Solving problems through flashes rather than reasoning is intuitive problem solving. Albert Einstein in reference to his theory of relativity said: "I did not arrive at my understanding of the functional laws of the universe through my rational mind."

2. Judgement and Decision Making

The role of intuition in gathering information necessary to make sound judgements and decisions is explained by Greenleaf as follows;

"There is usually an information gap between the information at hand and what is needed. The art of leadership rests, in part, on the ability to bridge that gap by intuition, that is, a judgement from the conscious profess...intuition is a feel for patterns, the ability to generalize on what has happened previously...Leaders, therefore, must be more creative than most; and creativity is largely discovery, a push into the uncharted and the unknown" (1977).

This is a very broad area and the categories below also relate to decision making; but I have chosen to list them separately.

3. Routefinding

On many occasions I have had a sense of the best route without understanding why or being able to articulate how I selected the route.

4. Safety Management/Danger Evaluation

Most outdoor participants have experienced premonitions of danger or something being "not just right". I have often felt this and the experience below taught me not to ignore these intuitive feelings.

Two friends and I went to kayak the Kicking Horse River. I felt apprehensive as we approached the river and told my partners I wanted a warm-up before paddling the more difficult section. As we were putting our boats on the water I experienced a very strong feeling that I shouldn't be paddling . My logical rational side told me everything was fine and to stop being such a wimp! That day is one I won't forget. I became pinned against a rock under water, thought it was game over but managed to get flushed off the rock only to be recirculated in several holes and almost miss the take-out , which might very well have resulted in death. All in all a very nasty swim and I certainly gained respect for my inner voice. Of course the rational mind might argue that my apprehension caused me to lack confidence which led to the incident. Of course that is likely true but it makes the messages about danger no less real.

5. Student Assessment

As outdoor instructors and leaders a big part of our job is to continually assess students readiness for adventure activities. We often base these decisions on our gut feelings.

6. Staff Selection

First impressions about potential staff often turn out to be accurate.

7. Group Process

During debriefs and other process activities leaders often have a sense of the group and where it needs to go. For example they seem to know what questions to ask, how deep to go, when to back off, etc. However, facilitators may also be directed by their own agenda based on their needs and "baggage", caution must be used when facilitating groups so as to not be misguided by what you perceive as intuition.

Accuracy of Intuitive Knowledge and Cautions

"To accurately translate your insights into right knowledge, you must arm yourself with the two-edged sword of discrimination and learn to distinguish illusion with reality" (LaPuma, 1991, p.134).

Intuition is skill and must be developed like any other skill. I encourage you to listen to your intuition and learn to trust it, but at the same time it is important to be cautious because your intuition may not always be accurate, especially at first. The subconscious, as well as storing information and insights, also holds emotions and other areas of vulnerability which have been suppressed. It is therefore important to learn to differentiate between types of information you are receiving and to also use your rational, logical mind to confirm your intuitive insights.

Jackson explains in his book Executive ESP, "The idea isn't to develop intuition to the exclusion of logical thinking, but to use these abilities in conjunction with each other. It's analogous to the functions of the right and left hemispheres of the brain; each controls different abilities, yet both sides are necessary to the expressed human being" (1989, p.26)

Developing Your Intuition

1. Obstacles

The first thing you need to develop your intuition is to overcome your barriers. Jackson has identified fear, habit and stress as obstacles to intuition (1989, p.26) Fear of the unknown, fear of failure or success, fear of looking ridiculous or irrational are examples of fear we must overcome. It is helpful to read about respected scientists or other professionals who rely on intuition and to talk to outdoor leaders who have examples of using their intuition. It will also help to keep a record of your hunches and their accuracy so you begin to trust them and no longer fear making mistakes or appearing irrational.

For most of us it is habitual to think logically as that is how we have been taught. It is difficult to let go of this linear process and to validate the non-rational. It may help to mess up your environment so that things are not orderly or to participate in exercises where you allow your thoughts to be spontaneous and not thought out. Many of the techniques below will help you to change the habit of not using your intuition.

In order to overcome the barrier of stress read the section below on relaxation. Before we move on, can you identify or elaborate on your own obstacles and come up with your own ideas on how to overcome them?

2. Think Metaphorically

Think of a metaphor or image to represent your intuition. Some people refer to their intuition as a child within , others refer to it as the priestess or third eye. Come up with your own image or symbol which can identify with and feel comfortable communicating with. Once you have done this you can get to your intuitive icon. Honor your intuition, listen to it and record your intuitive experiences. Nurture it and spend time developing it. Remember to praise and reward it and thank it. This may sound silly but it does work.

3. Getting In shape Intuitively

Tuning up your listening skills, receptivity, sensitivity, and becoming more aware of your of your intuition at work will help get you in shape intuitively. Below are some techniques to get you started.

Relaxation will allow you to open yourself to intuition. It is difficult to tune into your intuitive messages if you are stressed. It is important to take time out and elicit the "relaxation response", a physiological response identified by Benson which counteracts the stress response. Progressive relaxation, Autogenic Training, Meditation, Tai Chi, Yoga, Massage, Visualization, and Breathing Exercises are examples of some of the many available relaxation techniques you may use to relax and get in tune with your inner self. It is important to pick a technique that works for you and then to practice that technique daily, ideally in the morning and evening for ten to twenty minutes.

Silence helps us listen to our inner voices. As an outdoor leader it is important to withdraw from the group to have some quiet time to reflect and listen. LaPuma believes that "silence is the doorway to the unconscious" (1991, p.135). She write: "our role is to withdraw from outer involvement and listen to the sound of silence. Only in silence can find that place inside where all answers lie: our special place of infinite knowing. There the voice of our soul speaks without words so we may hear without sound". (1991, p.134).

Dreams are an excellent source of intuitive knowledge, help solve problems and working with them teaches about the symbolic language of the super conscious. Take time to write down your dreams and discover for yourself what the objects, events, and characters symbolize to you.

Discussing your dreams with others, such as in a dream study group, will also help you to understand the messages within. To help solve a problem ask yourself a specific question. During the day rehearse your question or even write it in your journal. Before going to sleep repeat your question and visualize your question being answered. Be positive and persistent. It may take several nights before you have a clear dream answer. By writing down your dream and examining the key images the meaning may become clear. The technique of asking a question can also be used before meditating, writing in your journal or selecting a tarot card. This is a very brief explanation on how to use your dreams. To help you utilize dreams as a valuable source of information read a book on dream study or take a dream workshop.

Memory games where you try to remember past events including details such as smells and feelings are useful exercises to practice daily, as the process of remembering is similar to the process of how intuitive information is received.

Creative visualization is particularly useful if you have difficulty remembering your dreams. Daydreams or stories you imagine while awake will also provide intuitive information and help you to think metaphorically and symbolically. Below is an example. Before starting, take time to become focused and comfortable. If possible have someone read the scenario to you or tape it. Feel free to

create your own scenario or visualization.

Visualize that you are travelling down a stream in a boat. Picture what type of boat you are in, what you see on either side, the smells. Feel the sun warm on your face. How are you feeling? You continue along on the stream and presently you arrive at a tunnel. You enter the tunnel and it becomes very dark. What are you feeling as you pass through in the darkness. Presently, you leave the tunnel and return to the brightness. You arrive at a beautiful meadow. As you get out of your boat, you notice a person sitting on the grass. Imagine what the person looks like. You begin a conversation with this person. Write this conversation below.

Meditation is a practice which is performed daily (even if only five minutes) will help you become more in touch with your intuition. Try sitting quietly and repeating the word one or if you prefer a visual focus, fix gaze on a candle or other object. If other thoughts arrive, allow them to float on by, observing them but not focusing on any one thought.

Summary

Outdoor leaders and administrators will make effective decisions and experience other positive benefits by using whole brain thinking where intuitive knowledge and rational knowledge are combined. To develop this ability, begin by defining and identifying intuition in your own way. Take time to listen to and record your intuitive experiences and the outcomes. This will help you to trust your "gut feelings". Honor, nurture and thank your intuition. It is a special gift which we all possess.

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References

Benson, H.(1976). The relaxation response. New York, NY.: Avon Books

Ennamorato, J.(1986). Intuition success strategies. Toronto, On.: NC Press Limited.

Gawain, S.(1978). Creative visualization. Mill Valley, CA.: Whatever Publishing Inc.

Goldberg, P.(1983). The intuitive edge: Understanding and developing Intuition. Los Angeles, CA.: Jeremy P. Tarcher Inc.

Geenleaf, R.(1977). Servant leadership. New Jersey: Pauist Press.

Jackson, G.(1989). Executive ESP Access your intuition for business success. New York, NY.: Pocket Books.

LaPuma, K.(1991). Awakening female power: The way of the goddess warrior. Fairfax, CA.: SoulSource Publishing.

Nadel, L.(1990). Sixth Sense: The whole brain book intuition, hunches, gut feelings, and their place in your everyday life. New York, NY.: Prentice Hall Press.

Polanyi, M.(1983). The tacit dimension. Gloucester, Mass.: Peter Smith.

Sullivan, D.(1992). Portrait of a prophet, OMNI, 14, (7).

Williams, S.K.(1985). The jungian - senoi dreamwork manual: A step-by-step introduction to working with dreams. Berkeley, CA.: Journey Press.

Moving Ahead: Program Review & Evaluation as Tools for Growth

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Abstract—This paper reviews the need for program evaluation. It discusses methods, evaluation, data gathering tools, and evaluation timelines.

"The primary purpose of evaluation is not to prove but to improve"
Stufflebeam & Guba

"The educational innovator usually has to design an evaluation without much professional advice, conduct it with limited resources, and defend it without the advantage of comparisons to conventional approaches that have been similarly evaluated."
S. Hamilton
Evaluating Your Own Program

Introduction

Program evaluation is an often delicate and intimidating subject. It is viewed by many as something that someone else does to them. The goal of this article is twofold; firstly, to provide a brief background regarding the various purposes and methods that evaluation can serve, and secondly, but most importantly, to provide practical information and experience to help individuals from a wide spectrum of backgrounds use evaluation as a means to move their organizations ahead in a purposeful manner.

Wisely moving ahead requires an assessment of an organization's past and present as well as an examination of their assumptions regarding the future. A program evaluation can help address such questions and consequently inform planning so that it is based on what has been discovered, what has been confirmed and what is anticipated. Service is what good evaluation is about. A well constructed and conducted evaluation is a service to the organization, its stakeholder and its clients. Evaluation serves the needs of a program by providing information that is useful for making practical choices regarding quality and effectiveness.

My goal in this article is not to provide a crash course in research-oriented educational evaluation but to provide tools, insights and resources that can help you develop and conduct a program review

that is thorough, realistic and usable.

What is Evaluation

Evaluation has a long history. From time immemorial people have judged the quality and effectiveness of all sorts of things and experiences. Based upon their judgment they have assigned value or worth. Methods of hunting, ways of treating illnesses and injuries, training for sport, approaches to human interaction, art and wilderness leadership have all been hot topics of debate. Formal or informal methods of evaluation have often been relied on to support one position or another.

Charting the Future; Program Review & Evaluation as Tools for Growth

Today we talk of evaluating outdoor leaders as a prerequisite to giving them a stamp of approval, such a certification. Such behavior is hardly new. Over 4,000 years ago the Chinese evaluated key public officials every three years to determine their fitness for office. As individuals involved in a variety of outdoor programs we are concerned about the effectiveness of what we do both in terms of quality of experience for participants and in terms of economic viability. Sometimes we need to justify the value of our efforts to outsiders or to others within our own organization. Evaluation is one way of establishing or supporting the worth of our program. Toward these ends it will be helpful to more specifically define evaluation.

Evaluation as I will be addressing it in this article is a systematic, "formal" assessment of the quality and effectiveness of a particular program. A few additional words of clarification may be helpful here. Because of an abundance of negative baggage associated with the term "evaluation" there has been a widespread shift to the use of other terms which have a similar meaning but a less threatening demeanor. Review and assessment are several of the evaluation synonyms that have gained popular usage. Many individuals perceive the purpose of evaluation as finding out "what's wrong" and then using such information, usually in the form of immutable numbers ("You can't argue with the data") to embarrass and humiliate people into better performance. The idea, so the reasoning goes, is to motivate individuals or programs to do a better job by showing them how much room there is for improvement. Generally, however, this deficiency approach to evaluation is just plain demoralizing. Evaluation should not only be concerned with pointing out what could be done better it should also strive to highlight a program's strengths. *For our purposes then we will use the term program review interchangeably with evaluation to refer to the assessment of a program using specific and systematic procedures which result in findings that are useful to decision makers for the purpose of helping them better shape and achieve their goals.*

Purposes of Evaluation

Sergiovanni (1987) has proposed three categories to explain why evaluations should be undertaken and what primary purposes they. Quality control l- insuring program goals are being achieved in a manner consistent with program values and that outcomes or inputs which are unintended but positive or important are recognized.

Professional development - helping individuals involved in planning and delivering the program to grow personally and professionally by continually expanding and enhancing their own knowledge attitudes. Motivation of individuals involved in the program - building and nurturing motivation and commitment to the program and its goals. This includes the program's ability to take care of its employees.

Outdoor Programs conduct program reviews for many different reasons; field supervisors want to know what program elements are effective and which elements can be improved on; field staff want

participant feedback on their effectiveness as teacher, facilitator and outdoor leader; the board of directors is concerned about the thoroughness and effectiveness of safety procedures for both program facilities and field operations; the administrator is concerned about a new program's cost effectiveness. Additional reasons include those who want to discredit a program or conversely to promote it; either interest group may conduct a review as a means of justifying their particular action or position.

Determining and communicating the main purpose of a program review is essential to ensuring evaluation effectiveness. Because of widely disparate and sometimes conflicting intentions within an organization it is imperative for all stakeholders concerned to be clear regarding the actual purpose of the program review process. What do you want to accomplish or find out? How will the program review results help you in this regard? What form will the finished report take and who will see it? What resulting action will be taken and who will be responsible for implementation and follow up? Poor definition of purpose is a recipe for misunderstanding, resentment, defensiveness and general disregard for the findings. Ideally the results of a review will inform and influence decision makers, but in reality, to cite only one example, if the findings are not in keeping with the options of those who requested or required the review, the results may be conveniently misplaced for a few millennia and the desired course of action taken irrespective of the review results. Some of the purposes for a program review are categorized below.

accountability to:

- program staff
- participants/clients
- funding sources (government, private agencies, taxpayers, sponsors)
- governing bodies (government, school boards, professional groups)
- board of directors
- parent organizations

program improvement through:

- revising program goals and objectives
- increased recognition and understanding of successful strategies already in use
- assessment of intended or unintended outcomes (performance)
- more efficient and economical operation
- establishing or improving community contacts
- identification of staff training needs and desires.
- improving logistical procedures
- improving equipment selection, use and maintenance
- updating program content information or delivery methods

information dissemination

- networking with peers involved in the review process
- highlighting the effectiveness of a program

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Methods of Evaluation

Just as there are many reasons for conducting a program review, so too there are many ways of conducting a review. Many of the formal and informal evaluation methods and data gathering tools used in outdoor fields such as experimental education have their roots in the field of educational evaluation. There are a great many *comprehensive* evaluation methods that can be used to conduct a review. Some are quite simple while others are unlikely to be used by any other than a trained educational evaluator and a specialist support team. There is a definite difference between statistics oriented, large scale evaluations focused on nationwide programs and conducted by trained evaluation teams and the less formal evaluation done by a program administrator of their own program. The latter however is closer to reality for most outdoor programmers. The challenge is to do the best possible program review with the available resources. The hardest to come by resources are usually time, money and trained evaluators. For this reason I have chosen to focus on a model of evaluation that is simple to use and easily adapted (see the accompanying model *The Program Review Process*). This model was developed primarily by Dan Cooney of Alberta Education and contributed to by a host of others including myself. It incorporates a variety of popular and widely used data gathering tools. It is a process I have used personally and which I find practical with a wide spectrum of programs and people.

Having stated my own preference and focus it is important to note that there are an amazing number of evaluation models out there and the curious amongst you are encouraged to consult the second edition of W. James Popham's witty and thorough text Educational Evaluation for more information.

Data Gathering Tools

Models are the *large scale methods* of program evaluation. The *smaller scale methods* are usually referred to as data gathering tools. They are simply a way of collecting information that can be analyzed. The review process may include many *data gathering tools*, tools which come in all shapes and sizes. Many of those listed below will probably be familiar to you in one form or another.

- participant observations
- review of documentation
- performance tests
- criterion referenced tests
- questionnaires
- interviews (recorded, videoed or written)
- individual (participants, instructor-teachers, administrators etc.) group
- instructor / teacher self assessments
- journal analysis
- site assessment
- at-task analysis
- instructional strategy analysis
- "in-flight" corrections

Conductors and Consumers of Evaluation

Much of the value of a program review has to do with who conducts the review and who requests or requires it. Listed below are some of the more common conductors and consumers of evaluation.

conductors	consumers
program director	staff
director and staff team	administration
outside experts	board of directors
peers in the field	funding sources
professional evaluator	government

Even when the purpose of a program review has been explicit the possibilities for hidden agendas are rife. No reviewer is a perfectly unbiased observer but the quality of the reviewer is mirrored by the value of the evaluation results. Especially when reviews are conducted internally but their results circulated externally there is the possibility of reviewers not seeing or reporting those things that might reflect unfavorably on the program.

Three factors will affect the outdoor of any review:

1. The purpose of the program review - if the stated purpose of a program review is ambiguous or a blatant misrepresentation of reality the results are likely to be worthless and unusable. Specific and manageable terms of reference generated collaboratively are the ideal.

2. Who conducts the program review - it is crucial to identify reviewers who can accomplish the stated purpose in an efficient and effective manner. They may be drawn from within the program itself, from peers outside the program or from some agency such as a department of education or a professional group (Hamilton, 1980; Duckett, Strother & Gephart, 1982)

3. Who will use the results and when - it is important that the reviewers understand not only the purpose of the review but also who it will be used by and when. If the final report will be used by the board of directors to make decisions regarding capital expenditures then they must receive the final draft with enough time to review it prior to their annual meeting rather than receiving it three days after the meeting is over. Likewise if the final report is to be used by paperwork swamped administrators it must be formatted in a way that makes it quick and easy to read but which includes enough detail to be useful for decision making.

Roadblocks in Evaluation

There are many potential roadblocks to evaluation. Identifying the most imposing of these before the review begins will go a long way toward alleviating problems down the road. Many times this is a matter of inclusion; including those individuals or stakeholders directly affected by the review so as to give them ownership and input. There is much less resistance to and fear of a review which people have had a personal hand in developing. Here is a starter list of roadblocks previous groups and individuals have identified as problems for them. No doubt you have a list of your own.

1. Time - When can I do it? I'm too busy.
2. Disruption of programming.
3. Fear among staff about intent - hidden agendas.
4. What is the payoff? What is the cost?
5. Who will benefit from the evaluation?
6. Others - add your own.

Timelines

Time lines provide a structure to help insure that a program review doesn't turn into a ten year project. In addition to a specific time frame for completion make sure that the individual or group responsible for a particular task is identified. Develop the time frame with careful reference to the program's operating time frame. For instance when looking at a mountain based adventure education program don't schedule field observations for the week of courses when staff are still getting used to one another and trying to determine how they "fit" within the program. Once again check your plans with the relevant stakeholders (field staff, administrators, teachers, etc.) to make sure you haven't overlooked anything major. Listed below is a sample time frame.

- Staff ratify terms of reference, evaluation process and time lines. April 15
- Review team established based on program input April 30
- Meeting with program members (staff, administration, board etc.) May 30
- Staff completes self appraisal June 15
- On-site visits and data gathering June 15
- Review team meeting to develop draft report July 1 August 1
- Draft report presented to program August 05
- Review of draft report and development of action plan by program August 15
- Discussion of report, necessary changes made and action plan included to yield final report which is distributed Sept 15

*This is a suggested time line. Dates may change depending upon availability of teachers, instructors, reviewers etc.

Terms of Reference

The terms of reference are data gathering guidelines which provide agreed upon parameters for the review process. They are also a statement of purpose in more specific terms. They specify what will be evaluated and by what standards. This can go a long way toward making the reviewer's job more manageable and as a result making the final report more relevant and useful. The terms of reference shown below were designed for the review of a school physical education program which placed an emphasis on outdoor pursuits.

A. Program

Are the "thrusts" of the physical education curriculum guides in place? e.g.;
Are the various dimensions being offered (aquatics, dance, fitness, gymnastics, individual activities and outdoor pursuits)? What is offered?
Is the movement approach being addressed at the elementary level? How is it implemented?
Is the levels approach being used at the secondary level? How is it implemented?

B. Planning

What statements are made regarding philosophy, goals, objectives, outcomes?
What instructional planning is in place? e.g. year, unit, daily documents, teaching resources.

C. Balance

What is the balance of time for activities offered in each dimension?

D. Instructional Strategies

What strategies are being used? Are they effective?

E. Student Evaluation

What are the criteria? Are they appropriate? How are they communicated? How are they assessed?

F. Intramurals

What activities, clubs, special days and self-directed activities are being offered?

G. Professional Development

What plans exist? How are PD experiences coordinated between divisions?

H. Work Environment

What are the arrangements for facilities, office space, showers etc.?

Program Review Tips and Strategies

1. Clearly state the purpose of the review. Set specific objectives. What is going to be reviewed and how?

2. Keep the number of things being looked at to a manageable level.

3. Selection and training of evaluation team members is important. Training should focus on the skills of planning, communication, observation, analysis, problem-solving and conflict resolution in addition to knowledge about and experience with the content area.

4. Feedback of a general nature is useless, e.g. "lacks organization". Be specific enough to meet the client's needs giving observed examples to illustrate your points.

5. Insure that the final report is presented in a format and manner that is useful to the client.

6. Timing is important. This is true for planning observations, presenting feedback and scheduling release of the reports to cite only a few examples.

7. Involve staff in the process of selecting the terms of reference and give them a say in the steps of the review.

8. Evaluators should strive to make the review process as collaborative between evaluators and program members as possible.

Conclusion

The program review process is a valuable and realistic means by which programs can assess specific aspects of their operation and thereby help chart their organizations move ahead. There are many purposes for doing a program review and many individuals or combinations of individuals who may serve as conductors of the review process. The conductors may come from within the organization itself, from outside or a combination of the two.

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There are many methods that may be used to carry out an evaluation. The *Program Review Process* has been presented as a straightforward and adaptable method which can be modified to meet a diversity of needs. The process presented is not meant to be a research method tested for reliability and validity. Instead it is designed to be a practical and usable tool to aid individuals and organizations in finding out more about the program.

There are certainly limitations to evaluation. One reality in the world of evaluation is that of politics and hidden agendas. For this reason understanding and making explicit the real purpose of an evaluation is paramount to its effectiveness. This is not always possible and in such cases evaluation may be no more than a show piece that serves the interests of one particular stakeholder. Other evaluation limitations include lack of money, lack of time, poor timing, poor collaboration with stakeholders during the evaluation design, terms of reference that are too broad and ineffective evaluators. However, evaluation is also full of potential benefits and the *Program Review Process* is one method to help you construct and conduct an evaluation that fits your needs and resources. When used carefully it will greatly facilitate a well designed and conducted review. Good luck in your efforts.

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References

Braverman, M. (1990). Three approaches to evaluation: A ropes course illustration. Journal of Experiential Education. 13, (1), 23-30.

Bennet, D.B. (1989). Four steps to evaluating environmental education learning experiences. Journal of Environmental Education. 20, (2), 14-21.

Flor, R. (1991). An introduction to research and evaluation in practice. Journal of Experiential Education. 14 (1), 36-39.

Hamilton, S.F. (1980). Evaluating you own program. Educational Leadership. April.

Harper, S. (1988). A model for program evaluation. Education Canada. 28, (3), 18-23.

Kolb, D.G. (1991). Meaningful methods: Evaluation without the crunch. Journal of Experiential Education. 14, (1), 40-44.

Popham, W.J. (1988). Educational Evaluation. Prentice Hall, Englewood Cliffs, NJ.

Sergiovanni, T.J. (1987). The Principalship: A Relative Practice Perspective. Allyn and Bacon Inc. Toronto.

Outdoor Equipment Rental, Getting the Most Bang for Your Buck.

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Overview of UCSD Rental program

- History of Rental program
- List of items we rent
- Income for 1991 - 92 was approx. $72,500.
- Growth trend in income (see above)
  - 1988-89
  - 1989-90

Choosing what equipment to have

Goals of your rental program

- Making money$$$$$
- Providing a service
- Outfitting your outings
- Combination of the above

List of the basics

- Sleeping bags
- Backpacks
- Stoves
- Lanterns
- Coolers

Monetary limitations

- Starting small
- Creative Budgeting

Choosing the right brand and model

- Don't choose what you like for yourself unless it meets the criteria for a good rental item.

Criteria for good rental item

Tent

- Heavy floor 2.5 oz. denier material is minimum; 5oz is great.
- Sturdy poles. Aluminum alloy is best; no fiberglass!
- Larger diameter means added strength with less added weight then in creased wall thickness.
- Big zipper with a brand name YKK # 10 size self repairing coil.
- No IDEAL

Backpack

- Ease of adjustment
- One size fits as many as possible
- Few add-ons and gimmicks
- Big zippers, few zippers
- Internal vs. External

Purchasing your equipment

Choosing a vendor

- Choose a vendor who you can get a lot of stuff from.
- Choose a vendor who offers wholesale prices or below.
- Don't buy retail!
- Go to shows like Outdoor Retailer and SIA to find new vendors.

Purchasing strategies

- Ask for rental deals and terms, they usually don't volunteer this info.
- Close out models and seconds are a great money saving opportunity. Ask for them.
- Pre season ordering and discounts
- Seasonal gear
- Have items made especially for you (more heavy duty).
- Plan ahead, be aware of manufacturers' seasons and when they ship so you are not back-ordered hopelessly.
- Follow up on ship dates and what is to be shipped.
- Let's face it, we are not usually large orders and often get low priority. **Be Aware!**

How long to keep rental gear?

Until it's thrashed

Pros

- Less capital outlay.
- Good strategy for equipment with low resale value.
- Examples: camping tents, downhill skis.
- Spend less time purchasing.

Cons

- Customers get equipment that is older and possibly not in good condition.
- Resale price and desirability of items is drastically reduced.
- Higher maintenance requirements
- Your image will be for outdated gear.

Depreciated for fixed length of time (subjectively evaluated).

Fixed length of time before inspection and determination of need to surplus.

Pros

- High resale prices (sometimes what you paid or more).
- Maintain new equipment in inventory.
- Have up-to-date brands and models.
- Create excitement with consistent flow of new equipment.

Cons

- Equipment sold before it is completely used up.
- Increases administrative time necessary for purchasing.
- Increased monitoring necessary to depreciate out equipment before it becomes thrashed.

How to get rid of the old stuff ?

- Have a sale.
- Advertise in the newspaper for individual items.
- Call the scouts.
- Sell it to your staff.
- Suggestions?

Rental policies

- Be fair and consistent.
- Post a sign with your policies.
- If it is not written, it is not a policy.
- Put them on the rental check out form.
- Policies of note:
  - Tent inspection
  - Rental periods
  - Late fee
  - Deposits
  - No reservations on camping gear.

Streamlining the rental process

- People will come in and rent more often if it is convenient and pleasant.
- Advertise:
  - Banners on buildings.
  - Circulate memo to all faculty and staff.
  - Rental brochure with policies and procedures available in shop.
  - Display new gear in shop.
  - Computerization/Reservations
- Great reports
  - Rental frequency
  - Per item income
  - Total rental income

Outdoor Program Management Concepts for the 90's

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Abstract— College outdoor professionals are often simultaneously administrators, educators and managers. Separately, these are very different roles requiring very different skills. Being all these at the same time can be difficult and demands great balance. Of these different roles, the manager is often overlooked, yet is one of the most crucial aspects of running an outdoor program. Much of the current literature on management is directly applicable to the outdoor recreation field. This paper will present some relevant management principles and suggest some ways to put them into practice.

Introduction

Society is changing. People are demanding quality service everywhere they go. Organizations that cannot provide their clientele with the service they want will not survive into the next century. Organizations must adapt and strive for constant improvement. The survivors who win be those that recognize people as their number one resource, and put the welfare of their employees as a top priority (Blanchard & Johnson, 1982; Miner, 1991). Because unsatisfied employees do unsatisfactory work, the best path to quality service is through happy , motivated and involved people (Covey, 1992). It is the manager's job to get people to do good work by convincing them that doing a quality job will add to the quality of their lives, and usually to the lives of others (Glasser, 1992). Yet none of this can be forced; coercion in any form is destructive. People don't do anything unless they want to. A good manager facilitates a genuinely happy environment where employees strive for the very best *because they want to.* Good management is the key to the Quality Organization that society seems to be demanding these days.

College outdoor programs could benefit from what the business world is learning about management. In fact, college outdoor professionals often face more complex challenges because they also play the roles of administrator, educator, and friend to their student leaders. The manager role can easily be lost in the shadow of the others, yet it can be the most powerful in the creation of a successful outdoor pregrain. What follows are some guiding principles to creating a successful program and some hints for putting them into practice. Keep in mind that the key to success is a happy, motivated, and involved staff.

Train a Staff You Can Trust

It is obvious that a quality college program should have quality training for its student instructors. How awful would it be if a program director could not trust his or her leaders to teach good courses and lead safe trips! It is crucial to have a well trained staff from a managerial standpoint as well. To be happy and motivated, people need to have autonomy and feel a sense of ownership of their work (Byham & Cox, 1988). This means they need a good deal of independence. To have a boss constantly looking over one's shoulder and correcting mistakes is a very disempowering experience. No one enjoys working in a police atmosphere. People like to be able to figure things out for themselves, especially those students drawn to be experiential educators. Therefore it is important to fight the temptation to tell staff *exactly* how to do their job. Assume that once they learn their job, they know as much as anyone about how to do it well (Glasser, 1992). Staff need to be trained *thoroughly* so they do not need to be policed, and so they do not need to be told how to do their jobs after they have been trained. Make sure that all expectations are made clear up front.

Feedback is a tool that can be as instrumental in the training of leaders as it is in their management Blanchard and Johnson (1982) claim that feedback on performance is the number one motivator of people. "Catch someone doing something right." (ibid) "Effective feedback preserves student dignity, acknowledges strengths and enables [teaming from mistakes] .... [It] is immediate, specific, growth oriented, tactful, and shows a cause and effect relationship." (Stebbins, 1992, p.6.)

Set them up for Success

It takes more than good training for student instructors to perform well. They need to be given the *tools* they need to do their job well. Many programs have courses or other activities offered on a regular basis. A balance needs to be found between instructors re-inventing the wheel each time, and doing everything for them so rigidly that there is no room for the instructor's creativity. One suggestion for each course is to have a one page "Curriculum Guide" which lists those essential elements specific to that course. This can include guidelines for what to teach and suggestions for effective teaching. Subtle differences in the presentation of this document can make a huge difference in instructor's attitudes. These guidelines can be included in a place with staff and student course evaluations, and any handouts or other useful information pertaining to that course. A "Course Checklist," as a reminder of things to do, like reserve a van and get a permit, can also help set up staff for success. Details can be included in a "Policies and Procedures Manual," which is a good place to make expectations clear.

Often in outdoor programs, students work independently on special projects, such as slideshows, putting together break trips, developing new curricula, etc. Administrators need to approve everything produced under their supervision for obvious quality and safety reasons. However, receiving a "veto" stamp on a project a student has worked hard on can be devastating. If this happens often, no one will volunteer to do any more projects! A much preferable scenario is to take the time to have a thorough goal setting session at the beginning of each new project (Blanchard & Johnson, 1982). If both the manager and the student are clear on expectations and the parameters associated with a given project, then the student has the true wisdom to accomplish the goals in the best way he or she sees fit, and need not fear a veto upon completion. An easy way to accomplish this is to list on paper the project's goals, parameters, next check-in time and tasks to be completed (Baglio, 1993). This does not need to be a boring list, but can be made fun and interesting. It is even more effective to create this list with the student during the goal-setting session

Create Community

"Quality is always the product of warm, caring human relations." (Glasser, 1992, p. 177) People put more into any group or task if it feels good, they know they will be appreciated for their efforts and are doing things for people they care about. Being part of a healthy, supportive community is of equal value to the leadership and skills experience they receive from an outdoor program. (Leonoudakis, 1991) However, at a school with a program instead of an outing club, there is potential for some of the fun to be lost to the business end of things. Doing things to facilitate a family atmosphere can help bring the fun back, which is what it is all about anyway.

There are few things that bring a group together as much as an intense shared experience (Napier, 1993). A group that goes through an intense program, while resolving conflicts along the way, has great potential to develop into a strong community. If each training group has similar experiences, such as voyaging on similar expeditions, then there is a common bond between all the leaders in an organization. Other family building activities include all-staff retreats each semester, staff newsletters, and Fall, Winter, and Spring break trips. Continuing education, an essential part of any successful organization, also serves to build staff unity. Senior staff members often develop specialties, and can be encouraged to share them with others. What could be better than a bunch of friends teaming together in a fun way?

Offer Leadership Opportunities within the Organization

"People want to make meaningful contributions. They want their talents identified, used, and recognized .... They want to be part of a mission and enterprise that transcends their individual tasks." (Covey, 1992, p. 178-180.) Few experiences can be as valuable to a student as being a leader and accepting responsibility for the whole, or part of an organization. Students can also help alleviate some of the burdens of directors, and allow much more to be done in a program with fewer full-time staff. Some leadership positions include: Assistant Staff Training Instructors, Program Assistants who plan special events, and assist in the administering of the program, Climbing and Caving Coordinators, Head Downhill and Cross Country Instructors and First Aid Specialists. Many of the things administrators do can be done, and done well, by students *if they are set up for success.*

Special projects are other areas in which to use students strengths. Many students have good organizational skills. Some enjoy putting together slide shows. Others have desktop publishing or video experience. It can be a great source of pride to have put together an awesome newsletter, flyer or video, or do something else that is impressive and helpful to many people.

Use Student Self-Evaluation

Evaluation as a means of improvement is an integral part of any organization dedicated to quality. Many programs utilize written student, staff and administrative evaluations, and these are very helpful to the administrators. For student leaders (and students in general) an external evaluation is just one more thing that people are telling them. Students are bombarded by so much information that it is possible for only a fraction to be assimilated. If an evaluation is to have real meaning to a student, then he or she must evaluate him or her self (Glasser, 1992). It is through this introspection that true self improvement is made. In the realm of experiential education, why should self-evaluation be excluded?

Putting self-evaluation into practice can be more difficult than other things because it is a skill that is often new to students, and they need to be taught something about how to do it. Thought provoking questions on a written form can be helpful. "What did you learn about yourself and your leadership style?" "What new things, if any, did you try on this course?" "What did you learn about group dynamics?" A manager can help facilitate the self-evaluation process during a focused

debriefing of the instructors at the conclusion of a course.

Sharpen the Saw

Two wood cutters were having a race to see who could cut the most wood in a day. One cutter worked as hard as he could all day and only stopped long enough to eat hastily and drink. The second cutter worked hard for a few hours, then rested for a half an hour, then worked some more, then rested again. Each time she rested, she took a file to her blade. This pattern continued for the whole day. At the end of the day the second cutter had cut more wood than the first. The non-stop worker could not believe it. "I worked incessantly all day while you rested so much. How can that be?" When asked how often he sharpened his saw, he replied "Rarely, I never have the time'cause there is always so much wood to cut." (Covey, 1989)

Taking the time to learn new skills to help you do your job better always pays off in the long run. Both you and your organization will be happier. Modeling this drive for excellence, as well as other desired behaviors, can inspire your students to sharpen the saw.

Parameters of Running a College Outdoor Program

1. The obvious difference between a college outdoor program and a business office is that students need to be full-time students first, and outdoor educators second. Student instructors are not dependent on your organization for their livelihood; they are there only because they want to be. Therefore, they need to be managed more as volunteers. Volunteers can up and leave at any time, and that is one more reason to keep them happy and feeling appreciated (Watters, 199 1)

2. Students often talk about the "real world" as something that happens after graduation. Given this, the "real world" can be defined as "a place where the things you do affect other people." In the academic setting, the work done by students in school only immediately affects themselves, and their GPA. Deadlines tend not to mean very much to students. If it is OK with the professor, then who cares if something is a week late? Although this can be an appealing way to live, the "extension mindset can be frustrating to program managers. This common attitude is one of the conditions of running a "real world" progam in an academic setting. Being up front with expectations, and setting realistic timetables is generally more effective than nagging and dwelling on lateness.

3. A program with a family atmsphere has its drawbacks. Through spending weeks in the woods with students, program managers gain a closeness with them that is not usually there with most teacher/ student or boss/employee relationships. The benefits are, obvious; however, college students are trained to be analytical in their thought process. This lack of distance makes students all the more comfortable with open criticism of each other and the management, just like a real family! Though sometimes very tiring, student criticism is healthy because it is all part of their teaming process, and part of the program manager's job as an educator. The reward comes when students realize what they have gained through their experience in the program.

Conclusion

Management theory is going through a shift these days. Healthy organizations are no longer rigid. Roles are changing. No longer are managers the people at the top giving orders, plowing the way while the people are dragged along by their collars. (People don't like that very much.) Even titles and labels are changing too: "managers" and "supervisors" vs. "employees" and "workers," are going out (Harari, 1993). In the outdoor education field, perhaps "group leader" is a more appropriate label than "manager." The way of the future is encouraging and inspiring people to become a guiding force in their organization. College outdoor programs will be able to offer more empowering and profound experiences to more people the more they involve students in the creation of their programs.

To accomplish this, outdoor programmers must train instructors well, set them up for success, and learn how to "manage" effectively.

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References

Baglio, John. (1993). Team Building Consultant. (pers.com., Oct. 20).

Blanchard, K. & Johnson, S. (1982). *The One Minute Manager.* New York: Wilham Morrow and Company, Inc.

Byham, W. C. & Cox, J. (1988). *Zapp! The Lightning of Enpowerment.* New York,: Banantine Books.

Covey, S. R. (1992). *Principle Centered Leadership.* New York: Simon & Schuster.

Covey, S. R.. *(1989).The Seven Habits of Highly Effective People.* New York: Simon & Schuster.

Glasser, W. (1992). *The Quality School.* New York: Harper Collins.

Harari, 0. (1993). Back to the Future of Work. *Management Review.* (v. 82, no. 9., pp. 33-35).

Leonoudakis, S. (1991). *Building Community to Strengthen, Grow, and Revitalize Your Outdoor Progrwn.* Proceedings of the 1991 International Conference on Outdoor Recreation. (pp.41-48).

Nhner, T. (1991). *An Overview of North American Experience-based Training and Development.* Proceedings of the 1991 International Conference on Outdoor Recreation. (pp.61-65).

Napier, R. (1993) Keynote Address at the 1993 Association for Experiential Education International Conference.

Stebbins, C. (1992). *NOLS Wilderness Education Notebook.* Nafional Outdoor readership

School.

Watters, R. (1991). Some Observations on the Management of Outdoor Programs. Proceedings of the 1991 International Conference on Outdoor Recreation. (pp. 115-120).

Overuse Injuries in Rock Climbing

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Abstract—If you climb frequently you have probably had at least one overuse injury. At least that is the conclusion of a recent paper[1]. Although a great deal of attention has been given to climbing injuries that occur as a consequence of altitude, heat, cold, and trauma, overuse injuries are the most prevalent type of injury.The purpose of this brief article is to present by impressions, as a physiotherapist, of the anatomical distribution of these injuries, causes, and lastly, steps that can be taken to prevent or help remedy these problems.

Introduction

Most overuse injuries show up as consistent pain during or after activity. They are usually considered to be insignificant and so they are not brought to the attention of health care professionals. However, overuse injuries can limit or curtail one's climbing and may interfere with other pursuits as well. If the injury has been around for more than two weeks then it deserves some action, even if the action consists merely of the basics: protecting the structure, ice, stretching, and rehabilitation exercises. Most people who do end up at the clinic are frustrated by a cycle of pain, rest, return to activity, pain....

Climbers are well aware of the need to train to perform their sport well, but few climbers are aware of the need to strengthen their weak links - structures that are inherently prone to breakdown. Still fewer recognize the need for rehabilitating structures rendered weak by an injury. The original injury most often occurs as a result of a sudden change in activity levels, such as a rapid change in climbing style, frequency, duration, or intensity. The rest period provides the tissue with a chance to reduce inflammation but weak links become weaker during this period. So when the pain dissipates the climber returns to the sport at a high risk for reinjury.

Some of the causes of overuse injury seem to be part of climbing itself. Consistently challenging one's physical limits requires that something is being stressed to its limit. The more vertical (or overhanging) the route, the more the body centre of gravity is placed behind the feet. As a result, greater amounts of weight are placed on the fingers, wrists, elbows and shoulders. In the survey conducted at the University of Calgary[1] the prevalence of injury followed the order precisely: the hands were the most frequent sites of overuse injuries, the elbows were a close second, the shoulders were a not-to-distant third place. Combination injuries, hand/elbow, hand/shoulder, or elbow/shoulder were also very common.

Example of Injuries

The Hand and Wrist

Tendons running through the wrist and the palmar surface of the fingers, as well as connective tissue that hold the tendons in place are often injured by sustained, repetitive, heavy stresses[2,3]. Though some people feel grating of the tendon as they move their hand, most times this injury shows up as aching or burning pain following activity. Tendinitis of the fingers and wrist may be the result of a rapid increase in repetitions on climbing walls, finger boards, or finger exercises. Climbers must take a close look at their training programs.

In my own experience, the knuckles of the fingers may become painful, stiff and swollen. One source of this problem is finger jams; rotation of the finger joints and large traction forces may cause chronic swelling. Inside the finger joints, the swelling causes the pain and stiffness (and also the early retirement of several climbers).

While more general prevention and recovery steps are listed below, some specific points are mentioned here. Taping has long been used by climbers to protect hands from abrasion and to protect the fingers, wrist and forearm from some stress. Taping can be very effective in these areas.

Finger joint swelling should be treated with ice, compression, and rest. Though rest may be simply avoiding finger jams, some severe cases cannot even manage face routes. The swelling problem may last weeks even if treated properly.

The Elbow

Elbow injuries of climbers resemble the injuries of tennis players, golfers and throwers. Insertions of wrist and fingers muscles at the elbow become inflamed and painful. Sustained, forceful, or repetitive finger or wrist movements increase the pain.

Often taping the wrist or forearm may protect the muscle insertions somewhat. Also, several climbers have attempted to use tennis elbow straps for the same reason. Although these techniques work to some degree they are not as effective for climbers as they are for other athletes.

Elbow problems of this nature can become very long-term. It is not uncommon to talk to people with two or three years of elbow pain. Therefore, get rid of the pain with rest and gentle stretching but then progress cautiously (pain free) with a wrist and elbow strengthening program prior to returning to climbing. Controlled (i.e. light and slow) wrist curls plus wrist turning exercises should be progressed to moderate levels before venturing back to walls.

The Shoulder

Sustained overhead arm activity can cause anterior shoulder pain. This is the climbing injury I see most often in the clinic and it has been given various names: bursitis, tendinitis, or impingement syndrome. This problem is easy to recognize because when the arm is lifted fully there is pain in the anterior of the shoulder. In the same place it is tender to touch.

There is much to be learned from the experience gained in other sports, such as swimming and volleyball. These sports have long recognized the need for shoulder preconditioning programs to prevent injuries. Particular emphasis is placed on training the stabilizing muscles of the shoulder such as the rotator cuff and the scapular retractors. In the treatment of overuse shoulder pain in climbing, rehabilitation should also train these muscles.

The Knee

Long approaches, especially descents, are well known to cause knee pain even in well trained individuals. The weight of one's body and a pack, adding some jarring impact, and compounding this with a degree of fatigue results in high forces at the knee cap and on the inside of the knee.

Another cause of knee pain is when one's full body weight is pushed up by one leg in a fully bent

position. Heavy loading of the knee in full bending produces large internal forces on the knee cap and can cause anterior knee pain. Also, in this position the meniscus (cartilage) within the knee is under a heavy load. A previously damaged meniscus may not be able to withstand the pressure.

Prevention and Recovery

The best two methods of prevention may be to prepare adequately for the challenge and to avoid sudden changes in activity levels. The knee is perhaps the best example of these principals. Step machines, running stairs, eccentric knee exercises, and maintaining good leg strength (hip muscles, knee muscles and calf muscles) are believed to prepare all of the tissues for a similar level of stress in the future.

Proper warm-up has been used in other sports to dramatically reduce injuries. In a climbing wall environment try a non-specific, low intensity activity such as a shoulder ergometer, exercise classes, or a rowing machine followed by upper and lower limb stretching. Outdoors, the approach and some stretching may suffice. An injured structure, even after the pain has gone away, requires adequate warm-up otherwise stiffness caused by the injury will worsen the condition.

Another reason for stretching is to allow the limb to attain the amount of motion necessary for the sport. In climbing this can be to the extremes.

In some instances an individual's climbing style may place relatively more weight on the upper extremities and increase the risk of injury. Attempting to bring the body centre of gravity over the feet, supporting more weight on the legs, or decreasing the rock angle will result in less strain on the hands. Another example of this situation is in bouldering, where one creates artificially long reaches for holds. When limbs are fully flexed or extended structures within and surrounding the joints are placed under a great deal of strain because the muscles are not capable of providing much force in those positions.

It may be worthwhile to avoid vertical or overhanging routes (i.e.. climb slabs) during the recovery phase. As well, decrease the grade of difficulty and duration of climbing during the return to activity phase.

Conclusion

Despite its brevity, I hope this paper will enable climbers to recognize some of the overuse injuries associated with their sport. Most of these injuries are minor but please handle them with great respect because long-term cases are not always treated successfully.

Recognize that before pain begins in overuse injuries there is usually a weakening of the structure over time. Disuse associated with rest further weakens the injured area. Returning to high level sport prior to retraining will worsen the chance of success.

References

1. Maitland, ME: Injuries associated with rock climbing. Journal of Orthopaedic and Sports Physical Therapy, 16:68-73, 1992.

2. Bollen SR, Gunson CK: Hand injuries in competition climbers. British Journal of Sports Medicine, 24: 16-18, 1990.

3. Bollen SR: Injury to the A2 pulley in rock climbers. Journal of Hand Surgery

Possible Computer Roles in Your Outdoor Program

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Abstract—This paper provides a general summary of the types of computers available which are appropraite for use in an outdoor program. Additionally, the different genres of software are discussed.

Introduction

Technology is here. Everyone has seen it coming for years, and while some dive into it, others feel the water and decide it's just too cold. Many programs have already made the initial leap of faith, but have yet to use their investment to its full capacity. Change is hard and slow, and for this reason I thought it would be appropriate to show many people in the field of outdoor recreation what technology could do for them.

Most outdoor programs today have access to a technological wonder called the computer. You might be one that has that computer on your desk, and although sometimes you might want to give it the old heave-ho out your window (all outdoor people work next to windows, right?), your computer can do a lot for you.

The rest of this paper is dedicated to demonstrating what can be achieved with different applications of the computer in your program. Please don't take this information as pure fact, for it stems from my own opinions and experiences with computers at UCSD Outback Adventures. Use it as a guide to help you make your own decisions about what your program needs, and remember, there are always others that have been in your shoes at one point or another, so getting help can be easy as using the phone.

Computers and Their Interfaces

There are more than a few brands and types of computers on the market, and each can have more than a few different uses. If you've recently been in the market for computers, you know that it is a very fast paced one. Prices change weekly, and sure enough, as soon as you buy one, next week there will be a better computer for less money. In many ways it is a double edged sword. If you buy one now, it will be cheaper later, and if you wait till later, then you can't have one now. I believe the best time to buy a computer is after you have assessed your programs need for one, and figure out just how it will be used. Armed with this information, you can now make a decision on the brand, model, and price to pay for a new computer.

There are two main types of computers on the market that are appropriate for outdoor programs.

The oldest type is the IBM compatible or "PC". This personal computer type fueled the computer revolution in the seventies, and was the first type of computer brought into the home. IBM was a major player in the development of these computers and still is today, but because of the lack of patents, IBM is fighting for its life. Different companies copied IBM's designs, put them in cheaper boxes and have computers. Apple promised an interface that would allow the average person to successfully use a computer without extensive knowledge or training. It was a big step in making computers "user friendly," and help people to overcome the fears of the computer revolution. Due to heavy patenting, there have been no clones of Apple computers, leaving them as David to PC's Goliath. Both types of computers accomplish the same goal. They both provide a platform on which software can be run to help you with your everyday tasks. Even though they both achieve the same goal, they do it quite differently.

The PC uses a system called DOS (Disk Operating System) as its main system. This system is used by all of the PC originals and clones. It depends on typed commands to perform tasks such as accessing the hard drive, running software, and manipulating files. Until recently, DOS has stayed a constant in the PC world, adding only minor features with the many upgrades since its first use. Apple's system organizes your computer like you might organize your desk, and is also a graphical interface. The screen is your desktop, with folders sitting on it, and in those folders are documents, and if you want to get rid of things, you simply put them in the trash. Apple also used a mouse in its system. The user can do all the functions needed by the system by moving the mouse, and clicking a button.

That is an unbiased description of the two types (as unbiased as I could get anyway). So here's the biased one. I like McIntoshes! I have programmed and used both types of computers in the last ten years, and have found the Mac to be much easier to work on, as well as for others to learn on. Almost all of the applications for the Mac have standardized menus, making it easy to apply the same functions in many different applications. The installation process of new software is also generally an easier task. As a matter of fact, so many people like the Mac and its ways, that the PC world created an environment to run on their machines to simulate a Mac environment, called 'Windows.' This is great, but, Windows has problems. First of all, it runs Windows from DOS, so the user must install windows on the computer and run it from DOS. That really does get rid of the original DOS problems. Secondly, many applications will not work with Windows anyway, so you'll have to go back and forth between the two systems. The Mac has it all built in to one package.

Those are the two types of computers readily available for the consumer and you to possibly use in your outdoor program. Each of these types has in it a large variety of models to choose from. Size, disk space, speed, and memory capacity are just a few of the things you will (or did) consider when you get a computer. This is really where the needs of your program are brought into the picture. You will need to decide what software you wish to use, how much disk space you will need for storage of the products, and how much memory you will need to use all of your applications. Of course, the prices vary incredibly as to which models you want. When you are purchasing a computer, try and make sure that the computer you want will serve your programs' needs for years to come, not just this year. Get all the information you can from any and all sources before diving in, and you should be able to make the best decision.

Computer Software

You have this large contraption now sitting on your desk, with various wires running everywhere, a surge protector to plug everything in, and probably a new desk (or office?) arrangement to fit it all. Now what? Well, in this section I will present the major types of software to run on your computer.

Spreadsheet Software

The first kind of software I will cover is a type called spreadsheet software. The idea behind a spreadsheet is rather simple. Each cell is labeled with a letter for its column and a number for its row. Many different things can be in a cell. It can have a numeric value, a text value, an equation, or nothing. Spreadsheets are mainly used for number crunching, but have many other uses as well. This particular program is a very powerful one that can do a great number of different things for you, if you have the will to learn how from the manuals.

Word Processing Software

Word processing is probably the biggest use of a computer by the home user. It has taken the place of the traditional typewriter. There are many word processors on the market, but I think the easiest and biggest one is Microsoft's Word. I created this document using it, spell checked it, and used only a small amount of its tools to create the look and feel of this document. Word processing can help you to make professional looking documents at your desk. There is not much more to say without sounding like a commercial.

Graphics and Layout Software

There is a large market for programs that can manipulate all sorts of graphics. These include programs to layout books to programs that can manipulate high resolution pictures. Almost anything you need to do, some sort of software to do it has been created and is out there to buy. One program that I use is called PageMaker. It is a page layout type of program that presents you with a blank page, and you can create objects to be put on the page any way you see fit. It makes it easy to create small signs, or bulletins on a moments notice. More advanced graphic software such as Photoshop allows you to take pictures that you may have taken, or scans you have made and edit them in more ways than I can possibly describe.

Data and Organizational Software

The last category I will cover is computer programs that do exactly what you wanted them to. This is the essence of database software. For the Mac, a database program called 4th Dimension is tops in its class. It allows you to set up a database from scratch specified to exactly what you like to see. It takes a while for a person to learn how to use it, but once he or she learns, it can be a great asset to your program. The idea of a database is simple. Let's just say you are a business, and of course just like any business you have customers (hopefully lots of them!). A database can be set up to save any information that you wish about each customer you have, so at any time you have access to any of your information quickly and easily. Think of a database as your filing cabinet. In the cabinet are files, and in each file there might be information that you decide to keep about a customer. The advantage of a database program holding all of your information instead of the file cabinet is that you now can run reports to see the trends of your customers, or search for all customers that have blond hair, and it would only take a few seconds compared to the hours that it might take to do it manually. That is just one example of how a database program can help you.

Organizational software is not a necessity if you have some of the programs I already talked about, but can be handy anyway. There are scores of programs that keep your books, keep track of your appointments, or serve as little black books. Many of these are good, and you can choose whatever appeals to you.

Planning

Now you say 'That's great, but what do I need, and how can it help me?" Well, I've told you all about the hardware and software available, so lets answer that question. First, for those of you who might

you will be set. I can't possibly get in to all of the uses for all of the software that I have described. Each one has its own manual to describe its functions, and it is up to you to decide upon the way you use it in your own program. The possible roles for the computer in your program are endless, from making signs, to keeping track of your customers, to point of sale transactions, to printing mailing labels, or to writing letters. The power of organization a computer can bring to your program can only be brought out if you decide to use it, and I hope all of the information that I have provided will help you decide the role of the computer in your outdoor program.

Reducing the Odds Backcountry Powder Skiing in Avalanche Terrain

Tony Daffern
Rocky Mountain Books

Abstract—This paper addresses the needs of the backcountry powder-hound who deliberately seeks deep powder in avalanche terrain. While we can take some comfort from the statement made by avalanche guru Ed LaChapelle that "the snow is stable 90% of the time", there will always be risk when skiing steep slopes in the backcountry. How can you reduce the risk to an acceptable minimum while still enjoying a good day's skiing? If you are a serious deep-powder hound you will learn to distinguish the good days from the bad, to observe current snow conditions, to evaluate snow stability from a few simple tests, to recognize signs of instability and perhaps the most important factor in reducing the odds, you will practice safe skiing techniques.

Risk

A discussion on evaluating snow stability would not be complete without some mention of risk. In the introduction to "Avalanche Safety for Skiers & Climbers " I state that "Only by recognizing risk can you use your knowledge and experience to reduce that risk". It can be further argued that whatever your personal acceptable level of risk the potential reward must always outweigh the risk. In other words don't stick your neck out for a run or two of lousy skiing. Save all your "nine lives" (hopefully more) for those occasional perfect days.

Everyone has a different tolerance for risk, from the risk-seeker who skis steep slopes regardless of conditions to the person with a low tolerance for risk who will only venture onto steeper slopes when the snowpack is indisputably stable.

When skiing with a large group or with companions who are better skiers, you should avoid being pressured into accepting more risk than you really want to tolerate. Be aware of your companion's attitude to risk and make adjustments on the conservative side if necessary.

Your Skiing Companions

Your choice of skiing companions is an important factor in the pursuit of safe skiing. The riskier the skiing the more critical it is to know their skiing ability and experience, their tolerance for risk and their potential behaviour in an emergency. Ideally you should ski with a small group of companions of similar ability and with similar tolerance for risk. If you ski with a large group you will have to be much more conservative in your choice of slope as it is much more difficult to apply principles of safe skiing to a big group.

The ideal group size is one which is small enough to be manageable and large enough to be effective in the event of an avalanche rescue. Four is a good number. Skiing alone leaves no margin for error and is not a good idea in avalanche terrain.

Ability

Because a good skier making smooth turns stresses a slope much less than a falling skier. You should match your skiing ability with the steepness and stability of the slopes you ski. A skier who has a tendency to "crash and burn" on steep slopes should not ski steep powder of dubious stability. There are some experts who consider that to ski deep powder in marginal conditions you should be able to "parallel" ski, as "telemarketing" puts a greater stress on the snow!

Safety Equipment

It is probably stating the obvious to point out that if you are a deep-power fanatic you should possess, carry and know how to use basis safety and rescue equipment. If you get into trouble, self rescue is your only hope. Make sure that all your party members have working avalanche beacons and are proficient in their use.

Local Knowledge

Your margin of safety will be much higher if you ski slopes you know well, then if you ski a new area. If you ski regularly in the same area over a period of years you will learn which slopes can be safely skied in different snow conditions and which slopes are prone to avalanching. You will get a feel for the area so that your observations of conditions will become keener. The importance of local knowledge cannot be overstated.

Form an Opinion on Snow Stability

If you are skiing in your local area and have followed the build-up of the snowpack and recent changes in weather, you should be able to form an opinion, no matter haw rough, about current snow stability. Build up an overall picture as the winter progresses and revise and refine this picture every time you go skiing. Choose your destination for the day with this picture in mind, and as you approach your chosen slopes compare your stability prediction with actual snow conditions. Do not let your desire to ski a slope interfere with your evaluation of its stability.

Snow, Avalanche and Weather Reports

In many areas you can obtain up-to-date avalanche forecasts prepared by professional forecasters. While these reports are usually for large regions or even for whole mountain areas, in times of high or extreme instability they will sound a warning bell. They will often indicate the conditions which are causing instability such as persistent buried surface hoar or wind loaded slopes of a certain aspect. Along with a call to the weather office a call to your nearest avalanche forecast centre or to park rangers and wardens is one of the prerequisites for safe skiing. In Canada call 1-800-667-1105

for the Public Avalanche Information Bulletin put out by the Canadian Avalanche Association.

Wait for the Right Conditions

Successful (surviving) extreme skiers make meticulous preparations and wait for exactly the right conditions before making their descent. Following their example, you should wait for the right conditions before skiing a particular slope or gully. Be flexible in your choice of slopes; if conditions are not right, go somewhere else. Timing is everything!

Snowcraft

Snowcraft is a little used term for an almost lost art. Anchorage avalanche educator, Doug Fesler, calls it "wearing your avalanche eyeballs". Like navigation it is the art of observing, storing and compiling into a picture a multitude of minute details. Observation is the key to safe travel in avalanche terrain - observation not only of the mountain scenery but of the multitude of clues indicating snow conditions visible to the perspective traveller. Observation is a major factor in evaluating the stability of a snow slope. Some of the things you should look for are as follows:

Evidence of Avalanching

This is the most important clue to instability you are likely to be given. Use other slopes in the area as indicator slopes. If nearby slopes have avalanched, observe how much snow has come down, how far the slides have run and the depth of the fracture line if they are slab avalanches.

In particular, look for recent avalanches on slopes of similar aspect to those you wish to cross. New snow sluffing off cliffs or snowballs rolling down steep slopes are either an indication of settling and strengthening of the snowpack or of isothermal conditions developing.

Wind Direction

You must always be aware of the direction from which the wind has been blowing and its approximate strength. Snow blowing off ridges, cornices, rime, drifts and around rocks and trees are all good indicators. As a general rule the more pronounced the feature the stronger the wind. Knowledge of wind direction and strength will enable you to decide if you are on a lee slope and likely to encounter slab.

Aspect

The aspect of a slope to both sun and wind is most important. If you've ventured onto a lee slope, look for layers of soft or hard slab. On a spring ski tour watch the shadows; when they point to a slope like a warning finger the slope is receiving the maximum amount of heat. In depth hoar country, a north slope may consist of little but loose highly unstable sugar snow crystals early in the winter.

The Snow Surface

Observe the texture of the snow surface and note any changes. Is it just a local effect caused by wind or are you on a slope of different aspect? Look for wind or sun crusts, surface hoar, riming or convex furrows which are signs of rain. Some snow surface features like etching and rippling indicate previous wind direction.

A good guide depends largely on "feel". The "feel" of the snow beneath his skis as he turns and a "sense" of terrain. His built-in wealth of experience attunes him to anticipate potential problems as he skis various types of terrain just as a good driver senses potentially dangerous situations

developing around him on the highway.

Feel the snow with your skis to detect any changes to hardness or texture. If you are following in the tracks of other skiers, step out of the trail occasionally. If there is fresh snow, check the depth as you ascend and evaluate how well it is bonded to the old snow surface. In cold snow, cracks running ahead of your skis are a sure sign that you are standing on slab; an important warning of instability which must not be ignored. Keep your eyes open and your senses alert. Gather as much information as you can.

Settling

One feeling which everyone will recognize once it has been experienced is the scary sinking feeling as slabs sink underfoot. Sometime this is a gentle subsidence, sensed rather than felt; a slight setting which produces no visible signs at the snow surface.

This is a sure indication of soft slab. If you're on a steep slope when the setting occurs you'll be relieved to know that the snow has settled without avalanching. But ten paces on it may avalanche rather than settle. It's your decision; retreat or risk it.

As snow slabs become harder, settlement will be more pronounced and you will actually feel the drop. There will be an audible "whumph" and often some visible sign of settlement on the snow surface such as dishing or cracking.

Movement of Skis

The way in which your skis move through the snow is another indication of snow conditions. If your skis tend to skid sideways you may be on a crust, hard slab or ice. If your skis subside gently into the snow as you break trail, but are hard to push forward or lift out, you are probably skiing in soft slab. When your skis or crampons ball up in new or settling snow it's an indication of a rise in temperature. Consider how much the temperature is rising and the effect it might have on the stability of the snowpack.

Weather

Don't forget to observe the weather. Changes in weather, particularly heavy snowfall , current wind speed and direction or a sudden rise in temperature all have an important effect on snow stability.

Test Slopes

Small, steep slopes along your route will give some indication of stability. Try to ski them off or jump on the top of them. Jump on cornices as long as you can do it safely. A good sized chunk of cornice rolling down a slope without triggering a slide will give you a lot of confidence in a slope's stability.

Ski cutting the top of large slopes is a much dicier business and should be done with caution. Never ski cut below a cornice. A snowboarder became the first snowboard avalanche fatality in Canada by doing this.

Ski Pole Test

The ski pole test is a means of checking snow layers in the top metre or so of the snowpack. It consists of pushing the pole into the surface at a controlled rate and feeling the changes in resistance as various snow layers are encountered. Although used to check for specific indications of hazard such as hard slab and depth hoar, it should never be used as the sole judge of snow stability, but rather as an indication that snow conditions have changed and that further testing is desirable.

Ski pole tests should be carried out regularly in avalanche terrain; often a seconds pause is

enough to detect a significant change in the snow. Before venturing onto a large slope, test a small slope of the same aspect first, making sure the elevation is as close as possible to the estimated trigger zone of the large slope.

Snowpits

Dig a snow pit on a test slope in a safe location. It is usually not necessary for the backcountry skier to dig more than about 1.5 to 2m deep. You really have no way of evaluating deep instability and if deep instability is forecast by your local avalanche warning centre you should be skiing somewhere else; somewhere safe.

According to Bruce Tremper, a professional stability forecaster, "The name of the game is to dig a pit in the most representative spot you can choose without getting killed". You may have to settle for a smaller test slope, and try to extrapolate the results to the larger slope, or work your way in towards the middle of the larger slope, digging several quick pits and retreating if there is any indication of instability.

In order to get reliable results, take care when choosing your snowpit locations. Stay away from trees; avoid drifts or ridges where the wind may have altered the layering of the snowpack; be aware of rockbands, buried bush or other shallow spots and avoid breaks or transitions in the slope. The ideal location is in the middle of a steep, open slope!

As you dig, pay attention to the consistency of the snow. You can learn a lot about the composition of the snowpack during the digging process. In warm conditions (close to 0 degrees C) find the temperature of the snow. You are looking for snow which is within a degree or two of freezing point. This is the layer which might slide as a wet snow avalanche. Look in particular for clusters of large wet incohesive ice grains which indicate the advanced stage of MF-metamorphism (commonly called rotten snow).

Feel the snow with your gloved hand to get an idea what layers are present in the snowpack. Don't bother with brushes or credit cards or with looking at the snow crystals with a magnifying glass. All you are trying to see is the overall picture. Look for the weakest layer and try to estimate how well it is bonded to the adjacent layers.

Shovel Shear Test

Do a Shovel Shear test looking for weak layers, especially layers of buried surface hoar. Remember that the shovel shear test is a good way to identify weak layers in the snowpack but a poor way to evaluate its stability. Make sure you know how to do it correctly. The way you cut the back of the column is critical.

The shovel shear test must be done on a slope with the same orientation as the potential avalanche slope and as close to the elevation of the trigger zone as possible. The following procedure is suggested for use in the back country.

1. First, probe to determine the total depth of the snowpack and to get an idea of the layering. By doing so you can find out the extent of thick layers of potential slab and any weak layers underneath.
2. Dig a snow pit about 1 meter wide and as deep as you think necessary from knowledge gained from other observations. It should be at least as deep as the most recent snowfall, with a practical maximum of about 1.5 m. Observe the layering of the snow as you dig, especially the hardness, crystal type and free water content of significant layers.
3. Trim the uphill wall of the pit so that it's vertical.
4. Excavate a chimney in the uphill wall about a shovel's width wide and just over a shovel's width

into the hill.

5. Mark on the snow surface a square block with sides 30 cm to 35 cm (a wide shovel's width) at the side of the chimney.
6. Using a snow saw or the tail of a ski, cut out a triangle of snow at the other side of the block.
7. Make a vertical cut at the back of the block about 0.7 m (2 shovel widths) deep or, if you have an indication of the depth of a weak layer, cut down to just below the suspected layer. Do not cut all the way to the bottom to start with and do not cut down into depth hoar or the block will collapse.
8. Carefully insert the shovel to its full depth at the back of the block, then using both hands and without levering pull gently on the shovel handle. Cut down the back of the block another 0.5 m and repeat the test.
9. If a significant sliding layer is present the block will shear off in a smooth even plane. If the block doesn't slide off smoothly the test is invalid and must be repeated.
10. Examine the fracture surface and try to determine type and size of the snow crystals causing the sliding layer.

The primary reason for doing a shovel shear test is to identify weak layers or lack of bond between adjacent layers within the snowpack. It is possible, with experience, to estimate the strength of shear of the weak layer or interface. However, any estimation of the shear strength should only be used as an indication of the need for further testing.

If the block slides during cutting or insertion of the shovel, then obviously there is a very weak sliding layer present. If there is a significant depth of snow above the sliding layer you should be looking for other signs of instability in the area and should be very wary of skiing steep slopes. Continue testing down the block looking for other weak layers.

If the block slides off with pressure from the shovel - remember it must exhibit a clean, smooth shear to be valid - and if there is more than 15 cm of snow above the sliding layer, a Rutschblock Test is certainly indicated.

It is not uncommon in cold dry climates with a shallow snowpack for the block to collapse into the depth hoar layer as it is cut. In this case, you must decide if the overlying snow structure is strong enough to support itself over the top of the depth hoar. If you have any doubts about the strength of the snow above the depth hoar, try the Compression Test described below.

Compression Test

Use this test if you suspect slab and where there's a layer of depth hoar at the bottom of a shallow snowpack.

Proceed as for the Shovel Test, but do not cut into the back of the block. Cut the sides down into any depth hoar layer. Now place the shovel flat on the top of the block and bear down in an attempt to break the cantilevered slab and collapse the layers underneath.

The force required for failure will give you an indication of both the ease of collapse of a depth hoar layer and the strength of the slab. Slab strength is a most important factor in an early season snowpack underlain by depth hoar.

Loaded Column Test

Do a Loaded Column test to identify the weakest layer and to get an idea of how much weight can be applied to the snow before it fails. The Loaded Column Test must be done on a slope of at least 30 degrees.

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1. Isolate a column as for the Shovel Shear test, but for this test, cut the back of the column right down to the bottom.
2. Flatten the top of the column.
3. Cut blocks about the same sizes as the top of the column, and pile them onto the column until the column fails (or it is obviously not going to fail).

Interpretation of Results

The theory behind this test is that if you can add 50 cm of reasonably dense blocks, say about 30% density, then the slope could be loaded with the equivalent amount of new snow before it would fail. For instance, if the new snow density is 10%, then 150 cm of new snow would be needed before failure.

In practical terms, proponents of the test feel comfortable skiing a slope if they can pile on 70 cm of reasonably dense blocks without the weakest layer failing.

Rutschblock Test

Do Rutschblock test as a practical evaluation of stability and as a means of filling in your snowpit as a courtesy to other skiers. If you find no significant instability, work your way out onto the edge of the slope you wish to ski, probing with ski poles as you go to determine if the consistency of the snow and the makeup of the layers remains the same. Do another quick series of tests. Depending on what you find you may wish to stick your nose farther out onto the slope, or you may decide to retreat.

1. Select a site as close as possible to the slope you wish to ski, and of the same aspect. If you must do this test on slopes of less than 30 degrees, the lower wall should be as smooth as possible, and a second person should watch for small displacements (less than 1 cm) that indicate shear failure.
2. Dig a pit and completely isolate a block about 2 m wide (a ski length) by 1.5 m deep using a combination of shovel, snow saw, ski tail, or knotted rope; whichever is the quickest. Flare the side cuts a little so that the block is free to slide out.
3. Load the block in the following sequence and observe when a clean fracture takes place.

Loaded Steps:

1. The block slides as it is being cut out.
2. Put skis on and carefully approach the block from above. Step down with one ski onto the block close to the upper wall. Transfer your weight carefully and place the other ski on the block.
3. Flex your knees quickly, without lifting your heels, to transfer your weight to the snow, thus compacting the surface layers.
4. Jump up and land on the same compacted spot near the back of the block with both skis.
5. Jump onto the same spot a second time.
6. Either jump on the same spot on the block without skis or repeat steps 3 and 4 with skis on, landing in the middle of the block.

Interpretation of Results

Conservative backcountry skiers will not ski a slope if the Rutschblock test fails with less than 2 jumps (step 5 or earlier). If the snow fails at any time before you jump on the block, instability is considered to be high on slopes of similar aspect and steepness.

If it fails when you jump on the snow with skis on, local instability should be suspected on similar slopes.

If you have to jump on the block with skis off or jump on the middle of the block to get failure, or if there is no failure, there is a low risk of avalanches.

Limitations

The Rutschblock test will not identify weak layers above the layer penetrated by your skis during the test. For instance, if you sink 20 cm into the surface snow when you step onto the block, a weak layer at 15 cm may not be apparent. The test has been found to be most effective on slopes greater than 30 degrees.

Summary of Procedure for Stability Evaluation

- Form an opinion on current stability from your home.
- Call the avalanche hotline for your area.
- Pick the area in which to go skiing based on the above opinion.
- Observe slopes visible from the road as you drive to your destination.
- Decide the slope you are going to ski when you get to the area and have had a chance to evaluate stability.
- Determine the angle of your intended slope. Is it 35 degrees or steeper?
- Practice the fundamentals of snowcraft.
- Jump on small, steep test slopes along the route to see if they slide.
- Jump on cornices as long as you can do it safely.
- Dig a snowpit on a test slope in a safe location.
- Pay attention to snow consistency as you dig.
- Run a gloved hand down the pit wall to get an idea of layering.
- Look for the weakest layers.
- Do a Shovel Shear test to identify weak layers.
- Do a Loaded Column test to identify the weakest layer and to estimate how much weight can be applied to the snow before it fails.
- Do a Rutschblock test as a practical evaluation of stability.
- Probing with ski poles as you climb to the top of your chosen slope to determine if the consistency of the snow and the makeup of the layers remains the same.
- If in doubt do another series of tests.
- Practice "Safe Skiing" techniques.

Safe Skiing

"The first rule of thumb in safe skiing is, if your partner wants to ski first...let him!"
—Brad Meiklejohn

After stability evaluation the best way of "Reducing the Odds" is to practice safe skiing techniques. There is one overriding rule for safe skiing and that is; never expose more than one skier at a time to avalanche danger. The following are pointers gathered from ski guides, avalanche professionals, extreme skiers and backcountry ski fanatics. One thing all these people have in common is that they are willing to turn around and go home if they become uncomfortable about the level of risk.

Managing Your Party

- Plan your descent. Decide where on the slope you will put the first track, who will ski first, which side of the first track the second skier will ski and how far down the slope you will ski before stopping to regroup. Stop at the very edge of the slope or ski right to the bottom.
- If the entire run is not visible, stop (to the side) at any changes in steepness or direction and ski the new section as a separate slope.
- Ski one at a time and watch each skier for the entire run. Don't start until the previous skier is out of the way. Skiing one at a time keeps the stress on a slope to a minimum.
- Don't ski above one another. Take care when tree skiing or skiing rolls and bumps not to ski above your partner. Move well to one side or to a safe position following the run.
- Use the buddy system and stay within sight or sound of your buddy at all times.

Skiing the Slopes

- Start the day by skiing easier angled slopes and work your way onto the steeper slopes. Ski treed slopes before open ones.
- Typically the first run of the day is always a safe run with several test locations for stability evaluations; a small steep roll or short commonly wind-loaded slope. Continue to sniff around, being constantly aware of changing weather and snow conditions.
- Start skiing a slope at the sides, working toward the centre on successive runs.
- Ski on ridges instead of bowls: stay out of gullies and avoid skiing slopes which channel into gullies; be alert for terrain traps.
- Enter the slopes at the top rather than at the sides. Don't ski in from the side below a cornice.
- Take a good look at the slope and consider the possibility of "weak spots". Ski where the snowpack appears to be deepest, avoiding possible "weak spots". In depth hoar conditions stay away from rocks which may be trigger points.
- Ski as smoothly as possible and in control. Sit down rather than crash.
- Ski the slopes as often as you can throughout the season. This not only gives you an intimate knowledge of the terrain, but also ski packs the snow, reducing its potential for sliding.
- Put your climbing track on safe, low-angled slopes. Climbing straight up on foot should only be done on the most stable slopes.

- A new lesson learned from heli-skiing is to look well above and contemplate triggering an avalanche that starts a long distance away.

Weak Spots

It is possible that, on any given slope, the strength of a buried weak layer, or of the snowpack itself, may vary from place to place.

Consider a slope covered with a certain depth of snow. If the slope were perfectly even, you would expect the snowpack to be uniform across the slope. However, if the slope is uneven or if there are buried rocks or brush, then the temperature gradient in those areas will be different and the snowpack will no longer be uniform. In climates where recrystallization is taking place such areas may be weaker and potentially less stable due to the higher rate of recrystallization. These areas are called "weak spots".

In studying a number of slab avalanches which have been triggered by a person adding stress to a weak layer, it has been noticed that the initial rupture of the slab usually begins in a localized area where the weak layer is at its weakest.

Once failure occurs at the "weak spot", the fracture propagates rapidly throughout the slab into areas of stronger snow; into snow which your companions may have safely descended.

The Implications of "Weak Spots"

The farther down the weaker layer is in the snowpack, the less likely you are to trigger an avalanche, therefore you should try to ski where the snow cover is deepest and keep away from rocks or brush protruding from the snow. On suspect slopes, follow the exact line taken by the person in front.

Remember that the more you concentrate your weight in a small area the more stress you transmit to the snowpack. A snowboarder will add less stress to weak layer than will a person on skis. Taking your skis off and walking down a slope is a dubious technique when slab conditions are suspected.

The old concept of moving between "islands of safety" needs revising to stress that the "islands" should be large and solid. A substantial clump of trees or a solid rock buttress, rather than insubstantial objects such as small trees or bush sticking up through the snow.

Tony Daffern is the author of Avalanche Safety for Skiers and Climbers.

Regional Conferences: A Great Way to Train Everyone's Staff

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ABSTRACT—This article provides an overview of the necessary information for planning and implementing regional conferences, using the 1991 and 1992 Western Regional Outdoor Leadership Conference as examples. It is the authors' intent that this information will inspire other outdoor programs to initiate conferences within their region. The article covers the history and success of the Western Regional Outdoor Leadership Conference, then looks at benefits, logical considerations, and session selection.

Introduction

The Western Regional Outdoor Leadership Conference (WROLC), an annual gathering of outdoor leaders, is a success story in cooperative staff training. Over the past two years WROLC has become a highlight in the staff development of over 25 Western Outdoor Programs.

History

The idea for WROLC was born at the Fourth National Conference on Outdoor Recreation (NCOR) in Boone, North Carolina. It was there that a handful of enthusiastic outdoor program directors, searching for a way to bring the energy and experience of NCOR home to their staff, created WROLC. The original conference committee recognized the need for a more accessible conference which focused on the immediate concerns of trip leaders, as opposed to the administrative issues commonly discussed at the National (now International) Conference.

From the very beginning WROLC has been a grass roots effort. Everything about it: venue, cost, sessions and social activities are planned with students in mind. The result has been a conference with all of the energy of ICOR, greater value for trip leaders, and an asset to all programs participating.

Planning was made easy the first two years due to a core group of outdoor program directors all

residing within close proximity to one another. In 1991, staff from U.C. Berkeley, U.C. Santa Cruz and C.S.U. Sacramento took responsibility for conference planning. In 1992 San Diego State University, The University of San Diego and U.C. San Diego enjoyed an even more convenient working relationship. In addition, delegation of responsibilities took place according to each program director's strengths. For example, SDSU has a computerized registration system which made registering conference participants simple and error free. Also, conference communications such as mailings, phone calls, faxes and brochures were delegated to those who had access to the most cost effective resources.

Another important aspect of the regional conference is the small monetary investment. Once the conference site and facility are secured, there is little to worry about. The early commitment of a representative group of programs to attend made it a simple matter to determine needs for meals, T-shirts, supplies and conference materials.

The first WROLC, hosted by Cal Adventures, U.C. Berkeley was attended by 126 outdoor enthusiasts from 20 programs. Although the majority of programs represented were within ten hours driving time, four programs travelled more than 500 miles to attend. The distance award went to Western Washington University whose program sent a representative some 850 miles. The second annual WROLC grew to include 149 participants from 22 programs. It was encouraging to note that virtually every program within 500 miles of Berkeley that had attended the first WROLC was once again represented. The 1992 distance record went to the University of Arizona who sent a van load of leaders approximately 850 miles to join us in Berkeley.

Benefits

From an individual outdoor program standpoint, the benefits of a regional conference are numerous. First, since our staff had to travel nearly 900 round trip miles to Berkeley, the weekend started off similar to many of our outings. However it was a joy to know that all 14 passengers were capable of driving, loading, and unloading, ensuring everyone's comfort, and having a great time! Second, the opportunity to learn new outdoor skills or become better informed on specific leadership issues helps further the commitment to leading quality outdoor trips. Third, the chance for student leaders to meet so many others from such a wide variety of schools and backgrounds helped to reaffirm why they do what they do. Fourth, many of our leaders gained confidence presenting sessions and workshops to their peers while others were inspired to set goals for presenting the following year. Fifth, several of our staff were able to make contacts for internships and employment. Finally, similar to the International Conferences, regional conferences are a great time to socialize with so many of like interest.

Logical Considerations

Clearly it is desirable to select a location central to the greater number of programs or participants. However, it is also necessary to consider all factors, including: inexpensive lodging, affordable food service, an area removed from distractions, availability of resources, and parking. Note: Several participants have suggested that the conference be held in a more remote location i.e. a rural retreat centre, or camp.

Lodging and facilities need not be extravagant. U.C. Berkeley is fortunate to have a clubhouse/ recreation centre on the edge of campus. The low cost of this facility, combined with its kitchen, showers, large meeting rooms, available A.V. equipment, and swimming pool proved perfect for our needs. Lodging consisted of two large open rooms with plenty of space for sleeping bags. In two years, no one has complained about the accommodations.

The $30 per person fee covered: Conference materials, lodging, meals, conference T-shirt, and use of Recreation Center facilities.

Conference communication was rather simple, starting with a large bulk mailing announcing the

conference dates and calling for presentations. This was sent out 3 months in advance. Following was a second mailing at the beginning of the Spring semester serving as a registration reminder. It also served as an enthusiasm generator detailing the number of presentations, registrants, and tentative schedule. From that point, communication was limited to mailing/faxing/phoning registration confirmations, and answering specific questions. We should note that several minor problems occurred with delays in bulk mailing and sending information packets to last minute registrants.

As mentioned earlier, conference registration was made simple with the help of SDSU's computerized registration system. As participants mailed in their registration forms and payment, names, addresses, and fees were entered into the computer under a "special event" account/line item that was previously approved by the program's accounting office. Periodic printouts of registrants and income to date were accessed within seconds, allowing for easy decision making. It should be noted that registration forms were printed to allow each participating program to send one check with numerous names. Although this caused some confusion in regards to sending conference information to individual participants, it was felt that future conference planning committees would like to send information directly to program directors, rather than to individual students (who's addresses change frequently).

Scheduling conference presenters is always a challenge. This is one area in which the conference committee may need to be aggressive in recruiting reluctant students. However the feelings of confidence and accomplishment experienced by student presenters are immediate and long-lasting. Careful attention needs to be paid to time slots, resources requested, and redundant or conflicting presentations.

As with all undertakings, proper feedback and evaluation is essential for continued success. Oral feedback was encouraged throughout the conference, especially at the closing session entitled "WROLC'93 Planning Session". Written evaluations were distributed throughout the conference, including a mailing address, for those who failed to complete them during the weekend. Completed evaluations were read by the conference committee, then forwarded to the next year's crew.

Sessions

The variety and quality of interest sessions are what make any conference a success. One dilemma that we continue to encounter with WROLC is that directors want students to present, and students want directors and other professionals to present. You must resolve this conflict to best serve your needs. Students have, by and large, preferred hands-on/hard skill workshops. Active sessions are also quite popular.

Conclusions

The value of conferences which are accessible to whole staffs, rather than select individuals, cannot be denied. Further, as budgets tighten, and it becomes difficult to travel long distances to national conferences, these regional meetings will continue to support the growth of the outdoor profession. We highly encourage other universities to connect with the programs in their area and reap the benefits of the regional conference.

Addendum

The 3rd Annual Western Regional Outdoor Leadership Conference, held at the University of California at Santa Cruz, was a big step forward for the conference series. With 236 participants representing 30 programs, this was our strongest showing to date. The steady growth, and overwhelmingly positive reception of WROLC are strong indicators that Regional Conferences are here to stay.

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Risk Management and Litigation Avoidance in Outdoor Recreation Programming

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Abstract—This session, involved the author and Mr. James Moss, a Denver trial attorney, in a joint session designed to share recent examples of United States and Canadian court decisions illustrating trends in outdoor recreation related litigation. The emphasis was placed on the avoidance of accidents and exposure to resultant litigation through the development of comprehensive risk management programs. Similarities and differences between American and Canadian judicial interpretations of the expected standards of care, support for waivers, and other elements became evident over the session. This article will review the case law as it relates to this area of negligence law in Canada and the United States. It will discuss the legally defined duties of outdoor recreation leaders in Canada, risk management strategies, and recommendations to reduce the potential for an accident resulting in litigation or of such litigation succeeding.

The Criteria for Negligence

An individual injured in an outdoor recreation program situation in Canada must demonstrate the following:

Duty of Care

The presence of a relationship between the outdoor leader and the injured participant. This one's usually easy; leader + participant = relationship.

Standard(s) of Care Breached

The omission of something the reasonable outdoor leader would have done or the commission of something the reasonable outdoor leader wouldn't have done (and/or reasonable parent in the case of a minor participant).

Actual Injury Suffered

Evidence of a physical and/or psychological injury must be presented. A leader can't be sued for burning the group's dinner, thank God!

Negligence the Proximate Cause of the Injury(ies) Sustained

Implies a test of foreseeability; the likelihood of injury and its potential gravity vs. the activity utility (social benefit) and cost of reducing the risk.

Participant's Personal Position not Prejudiced

The absence of assumption of risk (because a) the risk was inherent to the activity, or b) a binding waiver form was signed), or contributory negligence, where the participant failed to meet the standard of care the individual owed him or herself.

Outdoor Leader Responsibilities - The Issue of Standard of Care

In considering the criteria of the standards of care customary within the profession of outdoor leadership, and particularly those which have been recognized through the courts, a number of specific areas of responsibility of outdoor leaders have emerged. These include the obligation to be qualified to lead people outdoors, to navigate and guide safely, to supervise program participants, to instruct participants in the activity, and to provide adequate safety measures to support the program. In this section, I will illustrate each of these areas of responsibility using Canadian case examples.

Leader Qualification

The public or private agency employing an outdoor leader and the leader him or herself must be confident that the leader is qualified. Qualification may be defined as possessing the technical knowledge and skill, physical fitness, age and maturity, experience, judgement and leadership or other certifications deemed essential by law and custom to do the job safely and effectively.

In the Ontario case of *Moddejonge v. Huron County Board of Education* (1972), 2 O.R. 437 (Ont. H. Ct.), an outdoor education coordinator was found negligent for allowing a number of students who could not swim to wade in an unmarked pond area with a steep drop-off of irregular outline. Two students drowned when one girl, who could swim, attempted to rescue the second of two non-swimmers who had slipped off the drop-off. The coordinator himself, holder of master's degree in outdoor education, was a non-swimmer. As a non-swimmer untrained in lifesaving, he was neither qualified nor certified to be placing himself in the role of lifeguard.

Navigation and Guidance

Natural terrain (forests, mountains, rivers, etc.) is typically the environment of choice for outdoor recreation and education programs. Recognizing all of its variety and unpredictability, this environment dictates that the outdoor leader select a route appropriate to the group's objectives and preparation. The ability to match a group's ability with the demands of a particular activity and route is a skill which requires training and practice and is not one which should be left to the vagaries of luck. In addition, the leader is responsible for keeping the group together and for helping each member of the group learn to pace themselves toward this end. This reflects the need for group guidance, which includes skills such as managing the group, keeping them on their itinerary, ensuring no individual is overstressed by the demands of the activity and environment, and helping solve problems which may arise.

Finally, in addition to the necessity for excellent map and compass skills to ensure the group doesn't end up lost, the outdoor leader has a duty to assess risks inherent in the selected environment and determine an appropriate management strategy for these risks.

The recent case of *Lowry et. al. v. Canadian Mountain Holidays Ltd. et. al.* (1985), 33 C.C.L.T. 261 (B.C.C.A.); (1987), 40 C.C.L.T. 1 (B.C.C.A.), supported at appeal, clearly indicates the need for great care in areas with inherently hazardous terrain. This case involved a fatal heli-skiing avalanche accident in the Purcell Mountains, when eight of ten members of a heli-skiing party were caught in an avalanche and three died as a result. The families of the deceased sued the operator, contending that the defendants negligently conducted their heli-ski operation "in an area, and at a time when ... the danger of serious avalanches was readily predictable." Recent storm activity, the steep (48 degree) slope, slope aspect (lee), existing avalanche activity on similar slopes, recognized avalanche slopes above the ski run, and the snow layer profile all indicated high avalanche potential on the run which inevitably slid. In deciding in favor of the plaintiffs, the courts surmised that a reasonably prudent guide would have considered the above factors and dug the appropriate snow profile test pits and that such a guide "would never have taken the group on a traverse... where the guide in question did." This case sets an onerous precedent for heli-ski operators, and other outdoor leaders with respect to navigation and guidance and will hopefully result in increased time and thought being devoted to sound route selection.

Supervision

Supervision refers to the general duty to oversee the participants from the time the outdoor leader assumes responsibility for them until the program is complete and the leader and group part company. In the interim, the degree of supervision administered by the leader varies, as it is neither essential nor feasible that the participants be watched every minute of the day. Factors affecting the tightness of supervision required include: the nature of the activity, the real risk present in the situation, and the age, experience and technical expertise of the participants themselves.

In the 1981 B.C. decision of *Sholtes v. Stranaghan* (1981), 8 A.C.W.S. (2d) 219 (B.C.S.C.), an experienced outdoorsman employed a professional guide to accompany him on hunting, fishing and animal photography expeditions. Although the guide always escorted the client on hunting outings, he did not always go on his fishing and photography excursions. When the client plaintiff was mauled by a grizzly bear while on a photography outing, he tried to claim damages against the guide for failing in his duty to care for him by allowing him to be out in the wilds alone. The courts dismissed the action and held that the guide's standard of care depended upon the knowledge and experience of the person who hired him. In this case, he was justified in permitting the experienced client to pursue a low care activity (photography) without his direct supervision.

It's good to know such cases can be successfully defended, but leaders need to be aware that the finding could have been very different with participants who lacked the maturity and experience of the particular client in this case. Program supervision, both general and specific, is necessary where participants are attempting skills for the first time or practising inherently dangerous activities where foreseeable accidents may result in serious injuries.

Instruction

Virtually all outdoor leaders are involved as instructors, if only through the example they set for their participants. Those who function as outdoor activity instructors must, in addition to the activity skills, teach some of the safety related theory involved in the activity. For ex-

ample, those instructing river canoeing should also teach basic river reading, paddle and whistle signals, and river rescues. Instruction will include the provision of warnings to participants with respect to inherent risks involved in the activity and the environment to the extent that the participants understand and appreciate them and can assume some of the responsibility for accepting them.

Perhaps the most essential concern with instruction is that it be progressive within and between skills taught and in environmental challenge. In addition, time must be allowed for each student to safely master one progression before going on to the next. Unless special alternatives are allowed (i.e., extra instructors or sessions, terrain selection variety, etc.) then the group may only progress as fast as its slowest members.

An illustration of the importance of a number of these elements of instruction can be found in the facts and findings related to the decision in *Smith v. Horizon Aerosports Ltd. et. al.* (1981), 130 D.L.R. (3d) 91; (1982) B.C.D. Civ. 3391-01, where a sport parachuting student was rendered a quadriplegic as a result of an accident which occurred while she was participating in a course offered by the defendant. Near the end of a short four hour introductory session, the plaintiff and her class were taken up in a plane to attempt their first jumps. The plaintiff, although visibly anxious, was permitted to make her jump. She mentally froze as soon as she left the plane, forgetting all of her previous instruction. As a result, she failed to steer the canopy to the safe landing area and instead landed in a tree, fell to the ground and broke her back. Some of the factors used in attributing negligence to the defendant school included the instructor's failure to adequately describe and discuss a number of elements of the upcoming jump, resulting in the plaintiff lacking confidence in the procedure and being resultantly overstressed by the situation. The judge felt that the short nature of the course "puts on those who teach it a heavy onus to ensure that each individual novice has learned well enough to jump safely."

In addition, while no overt competition was present, the peer pressure which inevitably develops in such situations results in a duty to "tell an alarmed student that she does not have to jump and that no one will think the worse of her if she declines." In fact, this court felt that it was the jump master's duty to prohibit any jumper who he or she felt was not physically and emotionally in a condition to exercise clear and quick judgment even if the jumper felt personally ready to proceed.

In brief here, an outdoor leader has the foremost general instructional duty to progressively teach participants the activity and while doing so, he or she must determine that each participant has the intellectual, physical and emotional capability to perform at a safe level, the progressions taught. If not, perhaps lesson adjustments are indicated.

Provision of Adequate Safety Measures

The final category of responsibilities, integrally related to all others discussed, are those varied but essential duties collectively considered safety precautions. Leaders should know their participants' general and specific propensities, especially where participants are children or the mentally infirm and should create and enforce the necessary rules and regulations to facilitate organization and control of the group. Equipment must be adequate, including items necessary to participate in the activity and any safety and rescue equipment deemed essential by custom or circumstance.

The importance of attending to the provision of adequate safety measures was illustrated in the case of *Michalak v. Govenors of Dalhousie College and University* (1983), 61 N.S.R. (2d), 374. In this case, an eighteen year old student suffered a serious back injury when she lost her grip on the 'Tarzan-Swing' rope she was swinging on as part of a high

ropes course. While still attached to the main rope by a waist belt, the inverted position she assumed when she inadvertently let go of the rope caused her to hit the ground with her back resulting in a compression fracture of her thoracic vertebrae. She sued the defendant, Dalhousie University, for failing in its duty to care for her, and while the appeal court lowered her damages substantially (due to her substantial recovery between trials), both courts agreed that she was justified in her claim on four grounds:

1. A full body harness should have been used.
2. The ropes should have been checked after each swing.
3. The course was too advanced for beginners.
4. Inadequate instruction was given the students.

While the latter two criteria relate to the duty to instruct participants carefully, the first two are direct examples of a perceived deficiency in the provision of adequate safety measures. Outdoor leaders and programming agencies should note their responsibilities to develop a set of emergency procedures to effect in the event of an accident and to provide appropriate, quality equipment, suitably sized to each participant where relevant. With current technology, vast innovations and improvements have been made in the types and designs of various pieces of lightweight, compact lifesaving equipment used in most activity pursuits. For example, the wilderness high country ski leader of today would be expected to provide or require all participants to bring such items as electronic transceivers, avalanche probe poles, shovels and a first aid kit.

Liability of Outdoor Recreation Delivery Agencies

An individual injured during an outdoor recreation program may claim damages based on a personal fault of the agency (e.g., insufficient leader/participant ratio, occupier's liability, etc.) or on the vicarious liability the agency has for the errors or omissions of its staff. The principle of vicarious liability is supported by the courts because the agency receives the benefits/profits of the program and it is typically the insured entity and so better able to bear the costs of such losses. Therefore, as long as the agency has organizational control of the program and the leader is operating within the scope of their employment, the agency will be held responsible for them.

Risk Management Strategies

Outdoor leaders are constantly engaged in seeking adequate risk to stimulate participants while avoiding likely accident precipitating situations, and they must practise a variety of appropriate techniques for handling objective risks. The outdoor programming agency and leader will be responsible for assessing risks to each participant of various elements of the program. This information will be used as the basis for determining the appropriate strategic approach to dealing with each identified risk.

In considering the alternatives available, there are basically five ways to deal with real risk in outdoor program situations: retain, reduce, avoid, transfer through insurance or transfer through participant assumption:

Retention

While probably the most common method of approaching risk, it is important that the decision to retain a given risk is planned and intentional and not the involuntary result of a lack of consideration of the risks. An example of risk retention would be intentionally deciding to backpack in an area known for its variable weather.

Reduction

A loss reduction approach involves the employment of safety equipment and/or procedures which may reduce either the frequency and/or potential severity of accidents. For example, requiring cross-country skiers to wear glacier glasses above tree line may reduce both the incidence and potential severity of snowblindness.

Avoidance

Avoiding a risk involves making a conscious decision not to accept the specific risk present at that particular time. Portaging around an oft-paddled rapid when the river is in flood and the group is inexperienced is an example of the wise employment of this method.

Transference Through Insurance

In most, if not all outdoor programs, there are a variety of risks which are perceived as undesirable but largely unpreventable in the drive to achieve program objectives. These are the risks which, while occurring infrequently, may be quite catastrophic in their consequences. An example inherent in most camping situations is the risk of a serious burn, either from a campfire or gas fueled appliance (such as a stove or lamp). These risks are best covered through insurance.

Transference Through Waivers

Where participants are informed, consenting adults, there are a number of high risk activity situations where they must be prepared to personally assume the risk of participation. This may be legally achieved through the use of responsibility release contracts (waivers). The people who choose to climb Mount Everest or do other high risk activities at environmental extremes must be willing to accept great objective risks inherent to participation at that level. The use of waivers has been extended over recent years to cover a wide variety of risks, not necessarily restricted to those in the extreme range (Hanna, 1991).

Signed waiver forms have held up in Canada, all the way to the Supreme Court of Canada (*Dyck v. Manitoba Snowmobile Association Inc. and Wood* [1985] 4 W.W.R. 318; 32 C.C.L.T. 153). The crucial clause appearing to distinguish cases in which a waiver is upheld from those in which the courts choose not to support the waiver includes a statement to the effect that, "the participant waives the right to sue even where the agency and/or its staff are found negligent." Only signed waiver forms have held up. Those found on signs, the backs of ski lift tickets, etc. have not been supported to date. The downhill ski industry is beginning to get around this limitation by requiring season ticket purchasers to sign a waiver as a condition of purchasing their seasons pass. Another limitation of waiver forms is that they have not, as yet, been supported where a child plaintiff has been injured. These limitations must be kept in mind: Waivers should form part of a risk management strategy; they should not be the agency/leader's entire risk management strategy.

What To Do?

In the event that an individual is injured over an outdoor program, there are a number of specific actions the leader should take to minimize the potential for the individual to launch a negligence lawsuit and/or for such a lawsuit to be successful should it be initiated. These steps are as follows:

Care for the Victim

People don't sue their friends. If the injured individual is treated with care and dignity, there's a good chance they won't haul the leader and agency into court.

Employ a Scribe

Someone should be assigned to take notes -- copious quantities of them. Everything done at the scene should be recorded and pictures or video should be taken. These collectively are a preferred substitute to fuzzy memories trying to reconstruct the event, the steps taken, and their net effect.

Contact Agency Director

The boss will not be happy to learn about an accident through the media or some other public source. In addition, once notified, he or she will know how to contact the agency insurer and lawyer and will initiate these steps. The leader may want to contact his or her own lawyer, of course.

Avoid Contact With the Media

Public admission of negligence could be a very serious action, affecting the agency and leader's legal standing and potentially also the ability of the injured participant to access the agency's insurance. Many insurance policies include clauses which preclude payouts where responsibility or negligence is prematurely confessed. This is an "OOPS" to be refrained from at all costs.

Settle Out of Court

In long drawn out cases, the only people to win are the lawyers. Yes, they're nice people, but... Attempt to resolve the issue through negotiation, before it ends up before the judge.

Recommendations

If I could summarize the three most effective actions an outdoor leader and/or program delivery agency can take to reduce the potential for accidents and resulting lawsuits, they would be the following:

1. Develop a comprehensive risk management plan. Be systematic. Establish emergency procedures and adhere to them in the event of an accident.

2. Ensure the program is covered with liability insurance. *Accidents will happen* and the outdoor leader and agency cannot always rely on waiver forms to protect them.
3. Employ waiver forms as part of the risk management program. They do, in general, help to transfer assumable risks to adult participants. Learning to assume responsibility for oneself is a reasonable objective of outdoor recreation programs. However, the use of waivers is not a license to run a shoddy operation. It should be considered as one brick in the risk management wall; not as the entire foundation.

Integrating these principles in program policy and day to day operations can go a long way to helping the program director and staff sleep soundly at night. Good luck and good programming.

Glenda Hanna, Ph.D. is an Assistant Professor of Outdoor Environmental Leadership in the Department of Physical Education Leadership and Sport Studies at the University of Alberta. She is the recent author of Outdoor Programming Pursuits: Legal Liability and Risk Management.

James Moss is Denver area trial attorney specializing in recreation risk issues.

References

(*Dyck v. Manitoba Snowmobile Association Inc. and Wood* [1985] 4 W.W.R. 318; 32 C.C.L.T. 153).

Hanna, G. (1991). *Outdoor pursuits programming: Legal liability and risk management.* Edmonton, AB: University of Alberta Press.

Lowry et. al. v. Canadian Mountain Holidays Ltd. et. al. (1985), 33 C.C.L.T. 261 (B.C.C.A.); (1987), 40 C.C.L.T. 1 (B.C.C.A.).

Moddejonge v. Huron County Board of Education (1972), 2 O.R. 437 (Ont. H. Ct.).

Sholtes v. Stranaghan (1981), 8 A.C.W.S. (2d) 219 (B.C.C.A.).

Smith v. Horizon Aerosports Ltd. et. al. (1981), 130 D.L.R. (3d) 91; (1982) B.C.D. 3391-01.

Michalak v. Govenors of Dalhousie College and University (1983), 61 N.S.R. (2d), 374

SCUBA Certification: The NAUI Model

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Abstract—This paper summarizes the National Association of Volunteer Instructors certification program, including certification procedures, training progression and diving standards.

Background

SCUBA (self contained underwater breathing apparatus) is a unique outdoor activity that requires individuals to be certified before participating in the sport. A certification card is necessary for renting diving equipment, obtaining air fills and progressing to more advanced courses. NAUI certification is valid world wide.

The first organization to begin certifying divers was NAUI (National Association of Underwater Instructors) established in 1959. NAUI's purpose then and now is the education and training of the general public in the safe techniques of underwater activities. To achieve this purpose NAUI trains, qualifies, certifies instructors, and establishes minimum standards for dive courses.

Instructor Certification

To become a NAUI instructor requires a diversity of skills and knowledge. Instructor certification consists of at least five separate components learned in 200-250 hours of formal training courses. These include: **(1) diving experience** (including the completion of at least 50 dives), **(2) diving skills** (with increased complexity at each level, **(3) theoretical knowledge** (including physics, physiology, decompression theory, equipment and environmental factors, **(4) rescue skills** (including in water rescues and CPR related to scuba) and **(5) teaching skills** (including a demonstration of theory, confined water and open water instruction).

Personal time would include developing dive experience and studying diving theory. It probably would take an active diver 2-3 years and a minimum of $2000-$3000 to complete formal courses. The purchase of equipment would also require an investment of $2000-$3000.

Progression of Training

As a minimum, NAUI instructors have progressed through at least six (marked with an asterisk*) of the eight levels of certification courses which include: **Open water One*** (28 hours, 5 open water dives), **Open water Two** (12 hours, 6 open water dives), **Advanced*** (32 hours, 16 "in water" hours), **Rescue*** (12 hours, 3 open water dives), **First Aid and CPR courses*** (30 hours),

Divemaster* (30 hours, 14 "in water" hours) or **Assistant Instructor** (20 hours, 10 "in water" hours), **Instructor Preparatory Course** (24 hours, 12 "in water" hours); **Instructor Training Course*** (62 hours, 25 "in water" hours). The aspiring instructor may undertake specialty courses in ice diving, altitude, wreck, cave, night, underwater photography and deep diving to develop experience in a diversity of diving conditions.

Minimum Standards

Once the instructor has completed formal training the safety parameters of dive courses are determined by the NAUI standards and procedures. NAUI outlines minimum standards for the conduct of all levels of dive courses. There are standards and procedures which all instructors must fulfill in the area of **general standards; forms records and reports; confined water; open water; equipment; certification; course durations; assistant and ratio. Specific course standards** outline the theory and practical components of each level of dive certification.

General standards may include minimum ages for courses. Forms, records and reports required include medical forms, waivers and training records on individual divers. Confined water and open water standards suggest guidelines for instruction in these "in water" environments. The equipment required for all dive courses is also specified. For example, buoyancy compensators are required in all dive courses regardless of whether or not the diver wears a wetsuit or drysuit. Certification is at the discretion of the instructor. If students do not achieve all objectives by the course deadlines, individual arrangements are usually made until the student fulfils all criteria for the dive certification. Minimum standards also specify course durations and assistants and ratios criteria. For example the maximum number of openwater divers per teaching instructor in the openwater setting is eight students.

Summary

NAUI represents an organization which expects a high level of instruction and a high standard of care in dive instruction. The instructor is granted "academic freedom" to exceed the minimum standards and procedures. NAUI instructors can increase the number of hours and increase the number of open water dives. For example the University of Calgary Scuba Program teaches a combination rescue, assistant instructor and divemaster course over six months with approximately 100-150 hours of instructional contact.

NAUI SCUBA instructors are some of the most highly trained leaders in the diving industry. NAUI's motto is the "quality difference" which is reflected in all aspects of the instructional courses.

Michael Keppell is a N.A.U.I. certified SCUBA diving instructor. He has set up and is running the SCUBA Programs at the University of Calgary, Outdoor Program Center.

University of Alberta Climbing Wall: Wall Design and Construction

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Abstract—This paper describes the planning and development of the indoor climbing wall at the University of Alberta. Topics covered include funding, design, construction, and recommendations to other agencies undertaking climbing wall projects.

The Idea Takes Form

The concept of constructing an artificial climbing wall in Edmonton has been bouncing around for a decade or more. Outdoor Education staff at the University of Alberta suggested that one be included in the university's new indoor fieldhouse (Universiade Pavilion) when it was built in 1982. Unfortunately, the proposed wall was a late cut from the facility construction budget.

I managed the Campus Outdoor Centre from 1984-86, and early in that period I endeavored to put together a committee of individuals from the university and community to work toward getting a climbing wall in the city, preferably at the university. Some of the groups represented on this steering committee included: the Alpine Club of Canada, Canadian Hostelling Association, Grant McEwan Mountain Club, the City of Edmonton, and the Edmonton Public School Board.

At its first meeting, this group, the Edmonton Climbing Wall Committee, set the following goal:

To secure necessary support to build a climbing wall in the Universiade Pavilion. This wall would serve as a year round venue for teaching, skill development, training, conditioning and recreational climbing.

Initial Project Development

Initially, we conceived of a concrete wall, similar to the climbing room at the University of Calgary. I contacted Murray Toft for advice, toured Calgary's facilities with him, and began discussions concerning design adaptations to maximize the potential of our climbing area.We also hired the consulting engineers who had built the Pavilion venue to ensure that the building could support the concrete structure, to identify any implications for existing utilities, and to get a cost estimate on the project. Three local outdoor clubs contributed monies toward the $1,000.00 needed for this study and report. In exchange, these groups were offered three times the value of their contributions in

usage of the climbing wall, once constructed. The engineers' report was positive concerning the viability of the project and estimated the cost at roughly $50,000.00.

Institutional Approvals

While we had broad based community support, the task of securing the necessary approvals from the university needed to be carefully considered. I presented our proposal to my Faculty Council, emphasizing the academic and non-academic course potential, team training/conditioning value, and recreational benefits to students and staff. They endorsed the proposal in full. Our Dean, Gerry Glassford, then took the proposal forward to the university's General Faculties Council, and they also approved it.

The Dean and I met with Associate Vice President in charge of Facilities and a Senior Planning Officer from Planning and Development to discuss their potential concerns. The most serious concerns raised were:

a) problems with the building envelope leaking and uncertainty about whether the constructing engineers could or would resolve this problem, and

b) legal liability assumed by the university for accidents occurring in the climbing facility.

The site location was changed (to a different corner of the same field house) to address the first issue, a bonus from our perspective as we liked the alternative space offered better than the original site proposed. By guaranteeing the establishment of a wall management committee and operating procedures, and consistent use of a waiver form, we were able to deal with the liability concerns raised.

Grant Application Process

Utilizing suggestions from the steering committee, I wrote proposals to potential granting agencies. As the climbing wall concept was a new one in Edmonton, I worked with members of the committee to secure and append a substantial number of letters of support from various agencies and organizations in the community who would potentially use the facility if built. These included:

- The City of Edmonton
- The County of Strathcona
- Edmonton Public School Board
- Edmonton Separate School Board
- YWCA/YMCA
- Boy Scouts
- Girl Guides
- Alberta Recreation and Parks
- Junior Forest Wardens
- Canadian Hostelling Association
- Grant McEwan Mountain Club
- Alpine Club of Canada
- University of Alberta (3 departments)

Design Decision

As noted, our initial plan was for a concrete wall and we, in fact, had most of the funding in place to build such a facility. One of our steering committee members happened to hear about Entre Prises and we began correspondence to learn more about this alternative design and construction method. We also explored DL Climbing Walls from Vancouver, which proved similar to Entre Prises product, but which we rejected at the time because their technology was still in the research and development stage. We didn't want to take the risks involved in trying an unproven construction method.

The decision came down to selecting between concrete and Entre Prises. While we recognized the superior durability, rigidity and long standing European reputation of concrete, the new wave technology of the Entre Prises wall with its lighter, more dynamic flexibility appealed to us more. The potential to modify the wall for teaching, training and competition situations was very attractive. We finally decided on Entre Prises, assuming it was financially feasible. To this end we requested an estimate. While the initial estimate came in quite high, Entre Prises compromised substantially based on their desire to get a wall built in Canada, and we were on our way to building an Entre Prises climbing wall facility.

The Alpine Club of Canada - Edmonton Section, became a primary funding source (using their casino monies) and in essence became a partner with the university in the facility. Before construction could begin, we worked to ensure we had a detailed agreement with the A.C.C. addressing roles and responsibilities, management issues, access, marketing and public relations, and the terms of the financial agreement between the two partners.

Budget and Funding

The budget for the facility was as follows:

Item	Amount
Entre Prises: wall design, supply and construction	$50,000.00
Fencing	$8,000.00
Belay Bars	$1,000.00
Transport	$1,000.00
Total	**$60,000.00**

Funding was secured from the following sources:

Source	Amount
Alpine Club - Edm. Sec.	$20,500.00
City of Edmonton matching Community Rec. and Culture Grant	$20,500.00
Recreation, Parks and Wildlife Fdn. Grant	$10,000.00
U of A - Faculty of Physical Education and Recreation	$9,000.00
Total	**$60,000.00**

University of Alberta Climbing Wall Design

The U of A climbing facility is enclosed within a fenced, gated area. The floor is surfaced with Sarneige matting. The wall itself is a modular climbing structure covering over 200 m^2 of climbing space separated into three distinct phases:

1. Low west wall
   - 4m high x 15 m long
   - sculpted concrete resin and fiberglass modular panels with bolted holds
2. Low south wall
   - 4m high x 13m long
   - sand/fiberglass resin holds bolted directly onto the existing concrete wall; concrete sand blasted (to texturize)
3. High south wall
   - 16.2m high x 6m wide - split vertically
   - half in coated plywood panels with bolted holds
   - half (overhanging) in sculpted concrete resin fiberglass modular panels with bolted holds
   - this entire wall area is supported with steel belay bars at the top to facilitate top rope climbing.

All holds may be attached, removed, rotated and interchanged to maximize versatility of the facility.

Construction and Celebration

Construction of the climbing wall facility took a full week in September of 1988. It involved substantial volunteer assistance from the A.C.C. and this factor reduced our costs appreciatively.

Shortly thereafter, we organized and hosted a Grand Opening Ceremony to recognize funding sources and raise the profile of the facility. We included the mandatory speeches, simulated "big" cheque acceptances, plaque hanging, demonstrations on the wall by expert climbers and novice youth, and a catered lunch. It was great, especially the lunch.

Epilogue

The University of Alberta Climbing Wall has proven a very successful facility. It has attracted over 3,000 members since its opening. It is booked solidly for academic and non-academic courses, external rentals and recreational climbing. It has been the host venue for the Canadian Sport Climbing Championships twice, in 1989 and 1990.

Recommendations to Others

Before endeavoring to select and build a climbing wall facility, please consider the following:

1. Put together a committed team to steer on the project.
2. Secure support, institutional and broader community, before moving forward.
3. Consider partnerships and granting to fund the project.

4. Consider the amount of space available.

5. Determine location, considering safety and quality.

6. Select a design that fits your objectives and your space.

7. Determine the level(s) of challenge you wish to provide, and build towards that.

8. Develop systems to manage a safe facility.

Conclusion

I trust that this article may provide some useful ideas to others interested in initiating a climbing wall project. While each situation will vary, model examples such as this one may hopefully alleviate some of the uncertainties and provide a template for people to consider. An assessment of this and other project models will allow new project initiators to select the three P's: 1) partnerships; 2) process; and 3) project parameters which will result in a successful climbing wall project.

Good Luck and Good Climbing!

Glenda Hanna, Ph.D. is an Assistant Professor of Outdoor Environmental Leadership in the Department of Physical Education and Sport Studies at the University of Alberta. Glenda initiated the building of an indoor climbing wall facility at the University of Alberta and also instituted and currently coordinates academic credit courses offered on this climbing wall.

Why is Outdoor Recreation Worth $30 Million to the Air Force?

Phillip Heeg
Outdoor Recreation Administrator
Randolph AFB Texas USA

Truth In Reporting Disclaimer—The truth behind the catchy title is that the United States Air Force does not spend $30 million in taxpayer's money on outdoor recreation. More than $22 million of the $30 million dollars the Air Force spent on outdoor recreation in fiscal year (FY) 1991 came out of the pockets of our customers. If we were a municipal or university program, we would receive only 26% of our operating budget from the city or university. The tax dollars we do receive goes for salaries, utilities, facility maintenance, and office supplies. Excluding that 26%, the outdoor recreation program generates $1.06 in operating income for every $1.00 of operating expense.

Introduction

The Air Force outdoor recreation program evolved from the Army "rest and recreation" areas set up after World War II. In the United States, off base recreation areas and campgrounds were established to provide wholesome opportunities for off-duty recreation. Most of the areas were located near water to provide boating and fishing. Like many early recreation operations, the focus was on facilities not programs. Starting in the early 1980s some Air Force bases began to organize outdoor recreation activities such as canoeing and ski trips. It wasn't long before other bases, recognizing the market demand, established outdoor recreation programs. When local natural resources and properly qualified staff were available, the programs included outdoor adventure activities like mountaineering, whitewater rafting, and backcountry hiking or skiing.

Outdoor recreation is often the most diverse recreation program found on an Air Force base. While each program is different, outdoor recreation has, by regulation, responsibility for the following sub-elements: parks, playgrounds and picnic areas; outdoor recreation and adventure activities; swimming pools, beaches and waterfronts; equipment checkout and rental; skeet, trap, and archery

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ranges; on-and off base recreation areas; campgrounds and recreational lodging; marinas; riding stables; and ski areas. Given the range of programs and facilities, it should be no surprise that Air Force outdoor recreation is a big operation. During FY91, about 1500 employees managed operations at more than 100 installations in over a dozen countries. Sales were $4.6 million and activity revenue topped $15.5 million.

During the last decade, a variety of factors placed financial pressure on all Air Force recreation programs. As these pressures increased and recreation directors became better at financial management, we began to lose sight of our real purpose. We cut "unprofitable" programs, raised fees, and used the bottom line as our yardstick for success. We selected market segments based on ability and willingness to pay. While these are good business practices, they created changes which concerned many recreation professionals and senior Air Force leadership.

In response to these changes, and eroding support for recreation programs at Congressional and Department of Defense (DOD) levels, the Air Force convened a Blue Ribbon Panel to evaluate the need for recreation programs and suggest future policy directions. The panel reviewed more than $10 million worth of studies and research related to military reaction and examined trends shaping the Air Force of the 21st century. The work of the panel was refined and presented as "The White Paper on Air Force Recreation", signed out by the Air Force Chief of Staff in September 1990. Basic to the White Paper were two tenets: 1) The Air Force is our primary beneficiary/customer and 2) Our programs must address the specific institutional needs of the Air Force. While we had always said we supported the Air Forces' national defense mission, our current program mix did not support that claim. If we were to remain part of the Air Force, we would have to change our ways of thinking and running programs.

The first challenge to reorienting our recreation programs was to identify our most important customers. We were doing a good job of providing programs to individual active duty personnel, retirees and DOD civilians. If they wanted a program, and would pay for it, chances are we would offer it. Unfortunately, we were not providing programs which addressed the institutional needs of the Air Force. Specifically, we were not perceived by commanders as helping them perform their job. Commanders are responsible for ensuring their personnel are prepared at all times to carry out their assigned war fighting tasks. To a commander, any part of the organization which does not help him or her meet the mission requirement is a waste of precious resources. In the minds of some commanders, recreation programs were a waste of personnel, facilities, and money. We had taken our eyes off our real boss.

The Blue Ribbon Panel identified four specific areas which should be addressed through recreation programs. These include fitness, unit and community cohesion, family well-being, and quality of life. Fitness activities promote cardio-respiratory efficiency, muscular strength, and flexibility/agility. Unit cohesion building programs enhance work group interaction, and increase the desire and ability of members to function as a team. Community cohesion is enhanced by including active duty personnel, families, and civilians in community-wide activities designed to foster a sense of belonging to the local Air Force community. Family well-being activities enhance family interaction, and strengthen the relationships between family members and assist families in reducing stress. Quality of life activities enhance the perception that the Air Force is a "Great Way of Life".

Starting with the premise that the Air Force was our most important customer and that recreation should address four distant elements of mission support, we then outlined specific objectives for our recreation programs. Along with the objectives, we established indicators of success and identified specific benefits to the Air Force. The program objectives, indicators of success and benefits to the Air Force for fitness programs were:

PROGRAM OBJECTIVES

- Foster physical fitness and mental well being
- Foster awareness of proper diet, nutrition, and stress and weight management
- Increase awareness of the potential fitness value of recreation activities
- Develop awareness of mental fitness

INDICATORS OF SUCCESS

- Improved fitness levels among personnel
- Increased awareness of fitness and health in all aspects of life
- Lower incidence of negative behaviors such as smoking, alcohol consumption and drug use
- Lower stress levels, hypertension and cholesterol levels

BENEFITS THE AIR FORCE

- Improved capability of the individual to respond to work demands
- Improved responsiveness to training
- Improved readiness for combat
- Improved combat efficiency
- Reduced absenteeism and health problems

For unit and community cohesion programs, the objectives, indicators, and benefits included:

PROGRAM OBJECTIVES

- Encourage people to spend social time together in pursuit of common goals
- Enhance communication within a group
- Build interpersonal competencies
- Build skill in performing tasks cooperatively as a team
- Provide opportunities for individuals to develop leadership skills within their group
- Develop a sense of belonging within the base and local community

INDICATORS TO SUCCESS

- Vertical and horizontal cohesion among unit and community members
- Increase morale and mutual support within the Air Force community
- Increased pride in unit and community
- Increased desire and ability of members to function well together as a team

BENEFITS TO THE AIR FORCE

- Improved individual and unit job performance
- Higher morale
- More effective supervision
- Improved base - community relations
- Reduced vandalism and crime
- Reduced work stress
- Reduced absenteeism

Family well-being activities also had specific objectives, indicators, and benefits:

PROGRAM OBJECTIVES

- Encourage couples and family members to spend social time together
- Strengthen communication between marital partners
- Strengthen relationships between parents and children
- Build skills in personal and family problem solving
- Provide opportunities for family members to develop and test new roles
- Develop feelings of satisfaction with family leisure time activities

INDICATORS OF SUCCESS

- Higher Air Force satisfaction among spouses and children
- Increased support by spouses for the job and career of Air Force members
- Increased satisfaction with leisure time and recreation among Air Force families

- Lower levels of family conflict being brought to the attention of supervisors
- Fewer family problems associated with the inappropriate use of leisure time
- Increased morale among service members with families

BENEFITS TO THE AIR FORCE

- Stronger marital relationships
- Stronger parent-child relationships
- Reduced family conflict and stress
- Reduced work stress
- Improved job performance
- Better family support for the Air Force

It was quickly apparent that outdoor recreation was positioned to contribute more to mission support than any other recreation activity. The primary elements supported by outdoor recreation would be family well-being and unit cohesion. Outdoor activities would also play an important role in improving fitness and community cohesion. Not only could outdoor recreation support all of the mission support elements, it could do so through a wide variety of activities. When compared to opportunities available to the bowling or golf programs, it was clear that outdoor recreation would be called on to carry a large portion of the mission support responsibilities.

Once we establish the basic program objective, detailed planning can begin. For example, assume a commander wants to enhance her squadron's cohesiveness. Depending on the specific nature of the squadron' group dynamics, the outdoor recreation programmer may need to address leadership, trust, or cooperation issues. For the sake of example, assume there is a problem with cooperation; different members of the squadron don't pull their weight and some members can't seem to work together. Depending on the resources and capabilities of the outdoor recreation program, there are many different ways to tackle this problem. A rafting trip using paddle rafts or sessions on a challenge ropes course are obvious candidates. Knowing the desired outcomes make program planning, development, and execution much easier.

Each program requires different marketing strategies. Family well-being programs can be targeted for couples only, whole family, father-daughter, mother-daughter, mother-son, mother-daughter, and so on. The specific market segment must be established from the start. The fun part of program development is deciding which activity is best suited to the program objectives and market segment. What would work best to strengthen father-daughter relationships? A bicycle ride, canoe trip, fishing contest, or repelling program? Again, the decision is shaped by local resources and capabilities. Pricing policies must allow for different program objectives. Whole family programs must usually be low cost. Programs can offer a price break if the squadron or dorm unit handles the sign-ups or helps in some other way. The day of the week, the time of the day, and the location can all be tweaked to fit the program objectives and market segment. Programs designed to help young, single members make the transition to Air Force life away from home are particularly effective around major holidays.

Promotion is perhaps the most important part of the marketing mix and yet is often the most poorly handled. The media, copy, graphics, channel, timing should all be carefully considered. What key benefits which must be communicated to prospective customers? Are there customer safety concerns which must be allied? What general tone should the promotional materials try to convey? What is the most effective way to reach the target market? How far in advance does this particular target market need program information? To sell a program, even to willing buyers, you must do more than simply list what, where, when, and price.

Most importantly, you must communicate why the prospective customer should want to participate. If you do not answer the customers question: "What's in it for me?"; your promotional efforts will be ineffective.

To help recreation managers change their way of doing business and shift to an objectives based program approach, the Air Force developed a comprehensive Recreation and Mission Support Program Manual. We also began a formal test of the effectiveness of this new approach to recreation programming. The formal test is currently being conducted at six bases around the world and included comprehensive training for all staff members and an extensive pre and post evaluation system of interviews and surveys. Results of the test should be ready in late 1993.

Rather than wait for the test results, the outdoor recreation program embraced this approach from the beginning. The mission support approach to programming has been included in all of our training programs since 1990. We hope the early exposure to this approach will enable outdoor recreation to shoulder its important mission support role.

To help Air Force recreation personnel shift to an "objective based" approach to activity planning, we developed a program idea book listing successful activities that addresses specific mission support objectives. The book's program sections (i.e. golf, youth activities, outdoor recreation, etc.) were organized and color coded by the four mission support elements. This allows programmers to quickly identify activities that addressed a specific element. The program ideas were collected from base-level programs which had already proven successful. The outdoor recreation section, which was the largest, included 19 unit and community cohesion activities, 13 family well-being activities, 13 fitness activities, and 12 quality of life activities. Each idea sheet included a list of other agencies that might be involved, the goal or objective, a program description, and which base to contact for more information. (Sample idea sheets are included at the end of this article.)

While military recreation has some unique characteristics, our approach has direct applications to university, municipal and commercial outdoor recreation programs.

The first rule for all programs is: Never take your eyes off your boss. As we discovered, identifying the real boss is not as easy as you might think. The "boss" for a university program might be students, faculty and staff, or the university as an institution. To help identify the boss, it may help to determine why your program exists. Why should university resources be allocated to the outdoor recreation program? What is its purpose and how does that purpose relate to the university's "mission". If your program has no purpose or it doesn't relate to the university's mission, then it's clear that the university, as an institution, is not your boss. (It should also be clear that the outdoor recreation program will probably not get much support from the university when resources get tight.) The same can be said about municipal outdoor programs. Does the program's purpose relate to the Recreation and Parks Department mission? Why should the program receive municipal resources? How does it fit into the city government's overall program? For commercial operations the boss is the paying customer. Where the Air Force approach may apply is by offering ways to carve out market niches that increase market share or tap new markets.

A few examples demonstrate how an objectives based approach can be applied to other outdoor recreation providers. Using a case study approach, let's apply the Air Force approach to each type of program. The first step is to establish a guiding program objective. The university program has decided to improve unit cohesion. In this case, the members of the unit are the faculty and the staff

of a department or a small college. Poor group dynamics are not uncommon in academic units. In the municipal setting, the objective is to improve family well-being. Dysfunctional families create expensive demands on other city functions such as police and social services. The commercial program wants to distinguish its operation from competitors by offering programs which improve physical fitness. Resort operations exploited the fitness (perhaps "perception of wellness" is more accurate) craze and the spa industry was born. In each of these examples, the key is what the program will be designed to do. Once the objective is established, marketing planning begins.

Building on the examples outlined in the previous paragraph, we can examine subsequent market segment decisions. The university program started by contacting Deans or Department Heads to offer programs designed to improve faculty and staff cohesion. New Deans or Department Heads should find an opportunity to form cohesive team particularly appealing. The municipal program has chosen to target poor families or single parent families. The commercial operation is seeking people in the 35-50 year age range who are looking for less physically stressful alternatives to running or aerobics classes.

Once program objectives are established and a market segment selected, the next step is program development. Fortunately, the university program is equipped, staffed, and ideally located to provide whitewater rafting day trips. Raft trips are good ways to establish teamwork, set aside professional demeanor, and build common bonds. To keep costs low and establish leisure skills which families can use later, the municipal program is developing a kite building and flying contest. (Kite flying may seem a pretty tame outdoor recreation activity, but remember, the vast majority of people have absolutely no intention of ever hanging off a rock face by a single strand of rope. An expanded definition of outdoor recreation creates greater opportunities.) The commercial operation, located in beautiful Alberta, Canada, is planning a fitness through cross-country skiing program.

Since all of these programs are well grounded in marketing techniques, they've made some very savvy pricing, promotion and distribution decisions. The university program has selected a river that won't be too physically taxing or create anxiety among those without rafting experience. The goal is not adrenaline. Meal planning and preparation will involve the faculty and staff participants. The trip is scheduled a week prior to the department's planning sessions to map out next year's curriculum.

The municipal program has wisely chosen to take advantage of its park areas. They've worked with local crafts shops to help sponsor the event by donating kite making materials. The participants must bring their own string. This presents a minimal financial burden but helps establish commitment and builds anticipation. They are using local churches, community groups, and social service agencies to get the promotional message to their target market. The commercial operation, taking advantage of New Year's Resolutions, will launch their program in early January. It includes stretching and warm-up training, diet and nutrition information and a weekly technique clinic. As an incentive, the program offers a rent-to-own ski equipment package with additional discounts for pounds lost. For customers who already own equipment, the weight loss discount can be applied to new equipment or other outdoor recreation program fees.

While these are hypothetical examples, it's clear that the Air Force's objective based approach provides a planning framework useful to any outdoor recreation provider. It encourages variations of one activity to provide distinctly different outcomes. This helps small programs to produce a wider range of customer benefits. For programs which rely on some form of organizational subsidy, it can be used to strengthen political and resource support.

It can be used to reach new markets or increase market share by positioning an operation as different from the competition. Finally, and most important of all, it elevates the perceived value and importance of outdoor recreation activities. Without a clear understanding of the benefits of outdoor recreation, our efforts are discounted and the activities considered trivial. Outdoor recreation is important and has a great value. Our job as outdoor recreation professionals is to ensure our programs provide identifiable benefits to the customer. Failure to do so will both cheat our customers and weaken

our profession.

The author wishes to acknowledge the following people for their leadership and hard work in developing the Mission Support initiative for Air Force recreation programs.

Without their persistent efforts, the Air Force would not be attempting this important cultural change.

Mr Donald Carpenter, Kadena AB Japan, formerly HQ AFMWRSA
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Mr Jerry Croan, Caliber Associates
Dr Jay Mancini, Virginia Polytechnic Institute and State University
Ms Ann Nelson, Caliber Associates

OUTDOOR RECREATION
FAMILY WELL BEING

Program:	INFLATABLE KAYAKING FOR COUPLES	OTHER AGENCY INVOLVEMENT	MARKETING

Program Goals To provide relaxation and an escape for couples in an environment that will enhance and foster cooperartion and community skills.

This program is ideally suited to couples building and strengthening relationships. The inflatable kayaks are two person boats and require paddlers communicate well in order to steer and navigate. Day trips or overnighters are easily run. Transportation and food are both planned and provided. Shuttle arrangements must be made to return the paddlers from the take-out to the put-in site. In running the river, the trip leader becomes the lead boat and may lead from a raft, a hard shell kayak or another inflatable kayak. The leader chooses the best route through the rapids and the participants follow single file. Having a raft along is a good support boat in that it can easily carry first-aid and river rescue equipment, lunches and water. The trip leader should choose a river and pace that match the participants' skill level. The itinerary should be planned to allow ample time for a relaxing atmosphere conducive to free communication and exchange. Appropriate safety briefings prior to putting on the river are a must.

Fairchild AFB WA-DSN: 657-5104
COM: 509 247-510

OUTDOOR RECREATION
FAMILY WELL BEING

Program:	CAMPING MADE EASY	OTHER AGENCY INVOLVEMENT	YOUTH ACTIVITIES TOURS AND RECREATION

Program Goal To promote family involvement, family unity, and relaxed social interaction.

Outdoor Recreation has a camping program that many families are looking for. Camping Made Easy provides opportunities for families to enjoy some of the National Parks in our local area, but without all the preparation headaches of a family vacation. Outdoor Recreation provides the equipment (tents, sleeping bags, air mattresses, lanterns, stoves, water jugs, food service and preparation items, barbecue items, and coolers). Tent set up and tear down is done by staff and volunteers. Breakfast is also provided and cooked by staff and volunteers.

Nellis AFB NV - DSN: 682-8967
COM 702-652-8967

OUTDOOR RECREATION
UNITY AND COMMUNITY COHESION

Program:	FISH OR WILDLIFE HABITAT IMPROVE-MENT PROJECTS	OTHER AGENCY INVOLVEMENT:	CE, STATE NATURAL RESOURCE AGENCY

Program Goal To enhance the base natural resources and increase awareness of environmental issues.

While each base will have different needs, there is bound to be some portion of the base which would benefit from habitat improvement. K.I. Sawyer constructed a spawning riffle in a base stream to improve the habitat for brook trout. Rod and gun clubs, youth, scouting or school groups are usually interested in helping with these types of projects. CE is responsible for resource management on the base and habitat modifications may also require state agency involvement or expertise.

K.I. Sawyer MI - DSN: 472-2068
COM: 906 346-2068

OUTDOOR RECREATION
UNITY AND COMMUNITY COHESION

Program:	WING SKI DAY	OTHER AGENCY INVOLVEMENT	RECREATION SUPPLY, RECREATION PUBLIC AFFAIRS,

Program Goal To encourage people of all ages to discover the joy of winter recreation for a very reasonable cost.

Reduced lift, rental and lesson rates on a week day (in conjunction with a wing down day), free transportation. Local ski area is contracted for all prices. The program has become an annual event. In 1990 we agreed to guarantee the ski area 200 participants and ended up with over 750. Our goal was to offer prices far below the normal rates, encouraging those who had never skied "no excuse not to give it a try". Over 100 received beginning instruction. In additional to downhill ski activities, the OAP staff prepared cross country trails and provided instruction and patrol of the trails. Live music was a nice touch which was added in 1991. Transportation provided buses and drivers. Wing Ski Day was an overwhelming success. The 1991 program was severely impacted by Desert Shield/Storm though we easily met the minimums. While many military installations are not located geographically in ski regions, the concept may be useful for other activities.

Mountain Home AFB ID
DSN 857-6333 COM 208-828 -6333

OUTDOOR RECREATION
FITNESS

Program:	WINTER (GUTS) TRIATHLON	OTHER AGENCY INVOLVEMENT	FITNESS CENTER RECREATION CENTER, LOCAL SKI RESORT

Program Goal To enhance unit and community cohesion

The Guts Triathlon consists of 5 miles cross country skiing, 10 miles running, 1 mile snowshoeing up/ down the ski resort. The triathlon is held in conjunction with the local winter festival as one of the events held during this time. The race is publicized at sports shops, newspapers, radio advertisement, wing TV, daily bulletin, and briefings during the 1st sergeant's meetings. The Commander's Cup was introduced in February 1991 as an incentive to promote more military involvement. A Commander's Cup trophy was awarded to the squadron with the top winner on the military side. Racers meet at the golf course, which during the winter months is groomed for cross country skiing. The route is groomed to an off-base area in which the athletes change from cross country skiing into their running shoes. They run 10 miles down the country road to the ski resort and at this point put on their snow shoes and hike up the mountain and back in a 1-mile snow shoe race. There are two age categories: under 40 and over 40 for both women and men. Equipment is transported to each changeover area by MWR personnel, and is ready for each athlete as they change over to the next part of the event. Awards are presented at the ski resort. MWR members are groomers, mark and bag all equipment, have aid stations at each transitional spot, have a vehicle following the last athlete and work with the city officials to ensure all safety aspects are covered. Great MWR teamwork. Super exchange program with our military and the civilian community. Age of our athletes ranged from 18 years to 64. Teams are also allowed to compete.

OUTDOOR PROGRAM
QUALITY OF LIFE

Program:	CANADIAN FISHING TRIP	OTHER AGENCY INVOLVEMENT	CANADIAN PARK SERVICE

Program Goal To integrate people into groups in which they can identify, improve quality of life and develop friendships.

Schedule three 1-week fishing trips in June. Sign-ups for the trip are taken the first of April. Pre-trip meetings are held the first week in May to allow trip participants at least three weeks to obtain the items on the checklist. Checklist and fishing regulations are handed out at the pre-trip meetings. Depart on Sunday morning and return the following Saturday. Fish for Northern Pike and Walleye's. We take videos of the trips and use those for marketing. In the Equipment Checkout Center, we show the videos periodically throughout the day. A retired military volunteer is used to cook all the meals on the trip. This works out well as it frees the trip leader up for other tasks. This has to be one of the most popular outings offered and each week is usually filled.

OUTDOOR RECREATION
FITNESS

Program:	HEALTH & WELLNESS WITH THE OUTDOORS	OTHER AGENCY INVOLVEMENT	AMERICAN HEART ASSOCIATION

Program Goal: To promote health benefits of outdoor recreation programs.

Health & Wellness and outdoor recreation flyers, brochures, pamphlets, and sign up sheets were set up at the commissary with a display table depicting health & wellness brochures from the American Heart Association such as healthy nibblers (ideal for hiking, backpacking, and beach outings), running, walking, biking, swimming, (then we had sign up sheets for our programs that offered these fitness events). Vendors from the commissary provided samplers of the healthy nibblers. This was an ideal way to introduce outdoor programs to the customer who normally would not have visited our center because many people think that outdoor recreation is only fishing and camping. We were also able to introduce our family events, nature tours, geology workshops, high adventure programs, and this was also an ideal time for the customer to request programs that they would participate in if we had them. We had a free drawing for one of our events (spelunking, which many customers have not experienced). It was an informative, educational outdoor health and fitness awareness day. Since we were set up at the commissary on payday, we had the opportunity to pass this information on to many of our potential customers. Any activity can set their information section at the commissary to promote their programs.

K.I Sawyer AFB MI - DSN: 472-206
COM: 9066-2068

OUTDOOR RECREATION
QUALITY OF LIFE

Program:	WEEKEND BICYCLE TRIP	OTHER AGENCY INVOLVEMENT	MARKETING

Program Goal To provide an easy activity that encourages socialization and physical activity.

This trip was aimed at the average rider and people who did minimal bicycling. Customers provided their own bicycles and the outdoor recreation (ODR) program loaded the bikes on the van for transport to the starting area. The route along the scenic Masel River was planned for leisurely cycling with planned stops for regrouping and meals. A "sag" wagon was provided for riders whose energy or bicycles gave out. The tents and camp was set up by the ORD staff prior to the rider's arrival at the campground.

Bitburg AB GE - DSN: 453-7781
COM: 06561-61-7781

INNOVATIVE OUTDOOR RECREATIONAL GAMES PRINCIPLES AND PRACTICES

"Every game ever invented by man consists in making the rules harder for the fun of it."

—John Ciardi

1. NEED FOR INNOVATIVE GAMES

A. Excellent way to "Share the Experience" and to Enhance the Experience

- Share the joy of movement
- Share the opportunity to laugh
- Celebrate the moment
- Relate with the outdoor world on new and creative level
- No formal equipment usually needed, improvise with nature
- Can be cooperative or competitive
- Enhances the non-traditional setting
- Enhances the unique experiences
- Enhances the challenge risk

B. Use games for group building

- Get Acquainted
- Build Trust
- Encourage Cooperation
- Build Group Cohesion
- Improve Group Morale

C. A special focus group may use it for specific purposes

- Develop Communication Skills
- Work on Problem Solving Techniques
- Develop Critical Thinking Skills

- Teach Environmental Education Experientially — Lichtman
- Entertainment - FUN FUN FUN — Keck, Klingman

HIT THE DECK

Brief Description: This game provides an enjoyable way in which students can develop cardio-respiratory endurance, speed and agility, yet not even realize that these are the underlying objects of the activity.

Grade Level: K - 3.
Equipment: None.
Playing Area: Any large, open space.

Players: As few as 10 or as many as 50 players can participate at once. The number which can be involved at one time is dictated more by the size of the playing area than the nature of the game.

Game: The teacher sets the following scenario: This is a space ship and it is important to move quickly to certain areas on the ship when you are instructed to do so. The leader then points out the following areas which label key boundaries of the playing surface.

Fore:	Front of Ship	Starboard:	Right Side of Ship
Aft:	Back of Ship	Port:	Left Side of Ship
Bow:	Same as Fore	Mid Ship:	Middle of Ship
Stern:	Same as Alf		
Hit the Deck:	Fall on the Floor		
Aliens Overhead:	Shoot Down imaginary flying saucers.		

Once the players can remember the words that depict at least where the back, front, left, right, and middle of the ship are located, the game can begin. The commands "Hit the Deck" and "Aliens Overhead" will cause confusion. Later, terms which are synonyms for locations on the ship can be introduced one at a time.

The teacher should have students spread out within the confines of the imaginary space ship to start the game. The instructor shouts out commands such as "Go to the Bow", "Skip to the Stern", "Hop to the Starboard", etc. The students must move to that part of the ship using the appropriate locomotor patterns as quickly as possible.

Rules: Various rules can be implemented:

1. The last child to complete the order in a correct fashion can be eliminated from the game with the winner determined by who is the last player left, or
2. The last child to complete the action in a correct fashion can earn his way back into the game by doing some additional task, e.g. jog around the space ship, do 20 jumping jacks, jump rope 100 times, etc.

Helpful Hints: To make this game extremely exciting and, at the same time, develop agility, the teacher should call out the direction while the group is still in the process of trying to get to the location that was just announced. When this strategy is implemented for three or four commands in a row, it creates a very fast-paced game which doesn't work against the child who is slower in their actions. In fact, it makes the faster player have to work even harder, especially if the opposite direction is changed midstream, e.g. fore, followed by aft. The faster the runners will be closer to the front of the ship at the time the teacher yells out, "Go to the Stern" and thus, these players will need to use all of their speed to try to hustle toward the back of the ship to avoid being the last one to arrive. Since the instructor will change the direction in midstream only a few consecutive times before stating a command where players will need to actually move to that portion of the ship, students will not be able to out-guess your strategy.

HUMAN ANAGRAMS

Brief Description

This game requires students to spell out answers to questions regarding rules, terminology, history, strategy, etc. involved in sports or any knowledge area pertaining to Health and Physical Education. It provides an excellent medium through which information can be reviewed and is a superb rainy day activity. If teachers desire to increase the amount of physical activity which participants are required to perform, suggested modifications are provided in the Helpful Hints section.

Grade Level

Human Anagrams is appropriate for grades 5-college. The complexity of the words which must be spelled will obviously need to be geared to the cognitive development of the participants.

Equipment

Two to 4 sets of the letters of the alphabet which have been drawn with magic marker on cardboard rectangles (8" X 12") must be constructed. Each team will be given one set of letters. One letter is placed on each piece of cardboard and it is best to print the letters on both sides of the rectangle. The letters should be relatively large and drawn with bold strokes so that they can be easily seen. Old file folders which have been cut in half make excellent, inexpensive and uniform rectangles upon which the letters can be printed. To help distinguish one team's alphabet from another, each set of letters should be drawn in a different colour. The following letters are not used very often and teachers might not want to include them: J, Q, X and Z. To differentiate the letter M from a W, place a line under the letter so that it looks like M and W respectively.

Playing Area

When two teams are competing, Human Anagrams requires an area of approximately 60' (L) X 18' (W) unless one of the modifications is played. Human Anagrams can take place out-of-doors, but since the players will need to be seated at times, a concrete or grassy area is preferred.

Game

Divide the class into at least 2 groups and assign each team a captain. In no case should a team have more than 22 players or fewer than 18 players. With fewer than 18 people on a team, too many players will need to be responsible for 2 letters. This can be a very confusing task even for older individuals. If a student must be in charge of 2 letters, be sure that they are given ones which don't

occur very often in the same word. For example, V,and K, W, and P, C and B or H and F. Never have one student in charge of both a consonant and a vowel.

Double letters can be avoided by purposefully eliminating a few of those which would normally be used. If this strategy is employed, then select the letters which occur infrequently. Good choices would include the F and V or perhaps the K.

Have the captain of each team give 1 letter, or 2 where needed, to each team member. Logic dictates that the vowels and other letters which might be used a great deal should be given to the better spellers.

The configuration of 2 teams is shown below:

TEAM #1 SEATED		TEAM #2 SEATED
A B C D E ... Y		A B C D E ... Y
	TEACHER	
.....CBA	STUDENT STAND HERE TO SPELL THEIR ANSWERS	.....CBA

Players from each team should align themselves in such a manner that their alphabet is spelled out properly from left to right. Thus, when the teacher looks at each group, he/she should be able to read the letters in the order which they typically appear. If a student is assigned 2 letters, that person should seat himself/herself in the spot where the letter which occurs first in the alphabet is positioned. It is not necessary to leave gaps in the line of letters where the missing ones would normally be found.

After the teacher asks a question, the students who have the letters that spell the answer get up, move to the spelling line, and stand in proper order to spell-out the word while holding their letters so that they face their teammates. After the students are in the proper position and have physically spelled the answer, they must shout out their letter in consecutive order so that the word is spelled verbally. Once this is accomplished, the students should then sit down on the spelling line to signal that they are finished.

A point is awarded to the team which gets the answer correctly spelled first and then is seated. Remember, the word must be spelled correctly both physically and verbally for a team to win the round. The team with the greatest number of points is declared the winner.

It is critical for students to realize that when they position themselves to form their answer, they must do so in such a manner that when the rest of their teammates see the word, they will be able to read it as opposed to having the answer spelled backward. This is why the letters which label the spelling lines in Figure 1 appear to be reversed or mirror imaged to the reader. To the imaginary players who would be cheering on their team members, because they would not be involved in the word which is being formed, the answer which is being spelled out would be positioned appropriately.

Sometimes a player will hold his letter upside down or sideways while physically spelling out his portion of the word. This is unacceptable and is treated as an error. Teammates can tell the player to correct the problem, but if the word has been spelled out verbally, it will need to be audibilized again after the correction is made. The easiest way to avoid this difficulty is to encourage players to look over the top of the file folder at their letter to be sure that it is positioned properly.

If players have been assigned two letters occasionally they will display the wrong one for the solution which is currently being formed. Again, this error will need to be corrected in order for a team to have successfully spelled the answer.

If the same letter appears twice in the answer, the student(s) will need to physically move when

spelling out the word. In essence, they will represent a jumping letter. Initially, they should line-up at the position in the word where the letter first appears. Once the student shouts the letter that is positioned first in the word, he/she must move to the spot where his/her letter appears next and say that letter again at the appropriate moment. If 2 letters are given to one person, and the answer demands that both appear, the students should follow the same rules for jumping letters. However, he/she will need to interchange the file folders so that each correct letter is shown in its proper place in the word.

With more than 2 teams, it is best, and almost a necessity, for the teacher to have one student helper assigned to each team. This aide will make certain that the students are positioning themselves correctly and spelling their word properly. If student helpers are used, each should be given a whistle. When a team has spelled the word properly, both physically and verbally the helper should blow the whistle so that the teacher and players realize that the round is over. With student assistants, it is not necessary to have the spellers sit down after they have verbally shouted out their letters. The teacher will need to provide the helpers with a list of answers to the questions which will be posed.

If only 2 teams will be competing, and no student aides are available, after the instructor asks a question, he/she should walk forward to a point which is even with the team members who will not be involved in spelling out the solution, and then turn around. From that vantage point, it should be possible to see and hear the letters which are being spelled.

Helpful Hints

If more physical activity is desired, require that participants do some type of exercise prior to moving to the spelling line. These might include 20 jumping jacks, 10 squat thrusts, 15 sit-ups (provide mats), skip, run or hop to the opposite side of the gym, etc. Another possibility is to leave the letters spread in an orderly fashion across the floor in the gym. If a player's letter is required in the answer, he/she must retrieve his/her letter(s) before returning to the spelling line. The only drawback to these modifications is that a larger playing area is required.

To be certain that all of the letters of the alphabet are used a number of times throughout the activity, the instructor must plan the questions accordingly. Generally this can be accomplished fairly easily by using answers which demand 5 or more different letters. Furthermore, pre-planning will help teachers to realize which pairs of letters would be good to assign to one student if needed.

Be sure to play a few practice rounds which have rather short responses so that students realize what they must accomplish. In these trials include at least 2 examples of words with repeating letters.

If abbreviations or shortened versions of an answer will be accepted, e.g. NY (the periods have been deleted as punctuation marks are not used in Human Anagraphs) for New York or VB for volleyball, then make that clear when introducing the game. Keep in mind that acronyms and abbreviations will result in fewer players being involved at one time. However, the trade off is that more questions would/could be presented in a given activity session. It also helps players to know when a solution calls for two or more words. If such a situation occurs, then inform the teams just prior to stating the question.

BEST COPY AVAILABLE

TREASURE HUNT*

Small groups walk together to decipher a series of clues that will lead them to a treasure which was hidden prior to the start of the game. Each clue requires that participants collect some naturalistic items which tells players where their next clue can be located. The first team to get to the treasure by solving all of the clues correctly, gets to share the bounty. Consult the Adaptations for Younger Participants section when Treasure Hunt is used with second, third and fourth graders.

Objectives: Qualities depend upon the activities which instructors specified in the clues. Enhance cardio-respiratory endurance and/or speed relative to the distance players traverse between clues. Reinforce logical thought processes, word manipulation, spelling, identification of materials within a naturalistic setting, math and group cohesion.

Equipment: For each group: two pencils, four to six sheets of paper and a like number of envelopes which are marked with the Clue # and the team's name on the outside, e.g. Red #1, one set of clues, and two sheets of scratch paper. Note, if the clues do not require extensive deciphering, the scratch paper and pencils may be optional. The treasure can consist of anything the leader desires.

Playing Area: Any large space(s) where participants can be supervised; however, it is best to play outdoor where players will be able to move freely from one place to another.

Participants: Each group consists of five to eight members. The maximum of number of teams than can play at the same time is one less than the number of clues used in the Treasure Hunt. At least one recreational specialist is needed, but it is preferable if at least one assistant is available. These individuals hide the clues, supervise the activity, offer hints if groups are stymied and determine if the clues have been properly decoded.

Game: Clues are cryptic messages which are devised ahead of time and placed in envelopes with the clue # and the team name printed on the outside. These are then placed in the appropriate areas with the exception of the first clue for each team which is handed to the captain. If desired, the clue can be hidden so that players must search in a general location or can be placed in a rather prominent spot. In the latter instance, the activity processes more quickly with greater emphasis on deciphering the message, completing the required actions and moving from location to location.

Clue codes are the key to this event. There are many standard forms and examples of these that have been identified below. If the clue read, "Get ten acorns and go to the canoe rack," the type of code and actual message would appear as follows.

/A/ Mixed–Up Spelling, but the Words are in Proper Order:

TEG NET CONASR DAN OG OT ETH NACEO KRAC

/A/ Mixed–Up Words

CANOE ACORNS GO TO THE RACK AND GET TEN

/A/ Alphabet Represented by Numbers 1 = A, 2 = B, 3 = C ... 26 = Z

7-5-20 20-5-14 1-3-15-18-14-19 1-14-4 7-15 20-15 20-8-5 3-1-14-15-5 18-1-3-11

(Note: Dashes between numbers differentiate one letter from the next.)

/A/ Alphabet Represented by Numbers 26 = A, 25 = B, 24 = C ... 1 = Z

20-22-6 6-22-13 26-24-12-8-13-7 26-13-23 20-12 6-15 6-19-22

24-26-13-12-22 8-26-24-16

/A/ Vowels Represented by Numbers 1 = A, 2 = E, 3 = 1, 4 = O, 5 = U, 6 = Y

G2T T2N 1C4RNS 1ND G4 T4 TH2 C1n43 R1CK

/A/ Use of Math to Determine Number Words in the Clue

GET (FIGURE MATH BELOW) ACORNS AND GO TO THE CANOE RACK

The number of degrees on a compass
Divided by the number of stars which make up the ladle of the Big Dipper
Divide by the number of seasons in a year
Minus the eggs in a dozen
Minus the number of cups which 4 ounces represents

/A/ Adding Extraneous Repetitive Letters (e.g. OP)

GOP- EOP-TOP TOP-EOP-NOP AOP-COP-OOP-ROP--NOP-SOP

AOP-NOP-DOP- GOP-OOP TOP-OOP TOP-HOP-EOP

COP-AOP-NOP-OOP-EOP ROP-AOP-COP-KOP

Any combination of these types of clues is possible. Normally, between five and eight different clues are used for each game. The last clue must be the same for all teams as it leads them to the treasure. All of the clues are identical for each group; however, the order in which the teams complete their solutions is different. Table 1 presents a sequence of seven clues for team five.

Clue # 1 is handed to each team to begin the Treasure Hunt. Clue A for the Red Team directs them to a particular area where the Red Team's second clue (Clue B) is hidden. When Clue B is deciphered, it instructs the Red Team players to go to a specific area to find Clue C, which represents the Red Team's third clue etc.

The clues are ordered consecutively from each team regardless of where it directs the team to move. This means that Clue A = Clue #1 for the Red Team. Clue C = Clue #1 for the Blue Team. Clue B = Clue #2 for the Red Team. Clue D = Clue #2 for the Blue Team etc. The numbering of the clues along with the team's name on the outside of the envelope is done to be sure that the groups solve their clues in a specific order.

It helps to write the place where you physically want to hide the teams's clue under the flap of the envelope so you, or an assistant, don't get confused. For example, if Red Clue #1 (handed) deciphered to "Two push--ups each then go to the tennis net," you would have to hide Red Clue #2 at the tennis net. Thus, under the flap of Red Clue #2's envelope, you would indicate "Tennis Net" since that is where you would hide that envelope. Following this logic, say that Red Clue #2 decoded to "Jog around the tennis courts four times, then go to the bleachers." Red Clue #3 would be placed in the bleachers and under this envelope's flap would appear the word "Bleachers". In other words, YOU HIDE THE NEXT CLUE WHERE THE PREVIOUS CLUE DIRECTS THE TEAM TO GO. This is CRUCIAL, for if the sequence is not correct, some team, or perhaps all of the teams will not be able to complete their Treasure Hunt.

Additional Rules

- The clue must be deciphered and the directions completed before a team can go to the next clue.
- All clues must be completed in the proper sequence, #1, #2, #3, etc.
- The first team to find the treasure, or a promissory note for one, is the winner, provided they have correctly deciphered each of the clues. Once a team finds the treasure, they must not disturb it, but must give the instructor the clue sheets to verify that the messages have been properly decoded and any objects which were to be collected have been done so properly.
- If a team has worked for 3 minutes to decipher a clue and still does realize what must be done to break the code, the supervisor is allowed to provide a hint. However, a maximum of four hints per team is permitted during the entire activity.
- Other teams' clues may not be disturbed.
- A team can't begin to work on a clue until all of its members have arrived at the site where the clue is hidden.
- A team caught violating any of the rules is penalized at the discretion of the leader.

Safety Considerations: As a whole, no unusual safety concerns result from participation in this activity; however, the actions which players must complete might require that certain warnings be given.

Helpful Hints: To keep the activity level as continuous as possible, hide the clues in such a manner that once the players arrive at the proper location, they don't have to spend a great deal of time searching for the envelope. Be sure that the team's name and clue number is visible so other teams' clues will not be taken by mistake.
The first time this game is conducted, limit the number of clues to four, even if there will be two teams using the same sequence for their clues. Once you can successfully set-up a Treasure Hunt on a small scale, you will understand the pattern which must be followed to permit the game to run smoothly. For a better conditioning effect, try to use a sequence where participants will need to traverse relatively long distances between the spots where the clues are hidden. If the activity specialist or the assistant keeps track of the elapsed time between when the first and the second teams find the treasure, then should the first team have committed an error in deciphering, they can be given that specific amount of time, the number of minutes between the first and second team completing its Treasure Hunt, to solve the problem. If the members of the first team can't correct

the difficulty in this allotted period, and the second team's clues have been appropriately decoded, the second team would be declared the winners. Thus, it is important for the instructor to stress that the decoded clue must be written in the proper form on the equal clue sheets which have been placed in the envelopes. This will allow checking of the solutions to occur very quickly.

Adaptations for Younger Participants: For younger children who have only limited reading and abstract thinking capabilities, it is possible to eliminate the need for deciphering by simply writing in simplistic terms what is to be completed and where the group will find the next clue. A further modification can be employed by cutting out or drawing a picture of the activity that the participants will perform at each station. Likewise, a snapshot or hand drawn picture can be placed in the envelope to let the members know where they will have to travel to locate their next clue. Fifth graders do not require any special modifications, but only relatively simple codes should be employed.

*This game was adapted from an activity used at Camps Kenwood Evergreen, Potter Place, N.H.

Table 1
Ordering of Seven Clues For Five Teams

Clue #	#1	#2	#3	#4	#5	#6	#7
Team Name							
Red	A	B	C	D	E	F	G
Blue	B	C	D	E	F	A	G
Green	C	D	E	F	A	B	G
Orange	D	E	F	A	B	C	G
White	E	F	A	B	C	D	G

BUCKET BRIGADE

Brief Description

The objective of this activity is to be the first team to fill a large trash can with styrofoam pellets so that it overflows. Filling is accomplished by passing containers "fire brigade style" from person to person along a line.

Grade Level

This activity is appropriate for all age levels. The only modification which might be required for younger students is that a smaller garbage can and smaller buckets be used.

Equipment

Four 20-50 gallon trash cans and an ample supply of styrofoam pellets are required. These pellets are often used by manufacturers for protecting fragile materials during shipping. Check with some of the local businesses in your community. You might be able to secure a donation or, at the very least, get the name and address of a supplier. When these pellets are not being used for Bucket Brigade, they store very easily in large plastic bags which are used to dispose of lawn and leaf clippings.

Approximately half to two-thirds of the participants on each team should have one #5 tin can, coffee can or similar sized plastic container. If metal cans are used, be sure that there are no sharp edges on the part where the top has been removed. It is not necessary to have all of the tin cans the same size; however, each of the teams must have an identical set of containers so that one group is not given an unfair advantage.

Playing Area

Any indoor or outdoor area which provides at least 30 yards of space between the trash can which is to be filled, and the one which is already filled is ideal. If adequate space is a problem, team members do not have to be spread out in a straight line as described later in this activity. If the game is played outside, be sure that it is not excessively windy.

Players

Each team should consist of no more than 40 players. If there are enough students for more than 2 teams, any number can be accommodated provided that there is an adequate supply of equipment.

Game

After students are divided in half or in thirds, they must form a line between the source of Styrofoam pellets and the empty trash can which they will be trying to fill. There should be a distance of at least 3 feet between participants on a team. Thus, if a team consists of 40 players, the line between its two trash cans will be about 120' long. With such a large group, it is more preferable to set-up the line in a "U" shaped or "S" shaped configuration. This placement will reduce the amount of physical space which the activity requires and provide the teacher with an easier formation from which to explain the game and maintain class control. Cones or traffic pylons might be necessary to keep the students in their proper alignment.

Rules

All empty containers must start at the end of the line where the styrofoam pellet source is located. The student who is closest to this source serves as a dipper and starts to fill the tin cans when the signal to begin is given. A second individual may serve as another dipper. Two dippers are recommended when this activity is used in grades K-4.

Once 1 or 2 of the tin cans are filled, they are passed up the line "fire brigade" style and dumped into the empty trash can. After the cans are emptied, they are sent back to the dipper by passing them from person to person on the team. Every person must touch each tin can which is either going up the line to be emptied, or down the line to be filled. If this rule is violated, one can is taken away from the team which is at fault for approximately one minute. The process of filling and emptying the containers continues until the trash can from one of the teams is overflowing.

If more physical activity is desired, then an alternative movement pattern can be used. Instead of the cans being passed down the line to the dipper, after the person empties his/her container of pellets

into the trash can, he/she runs with the can back to the dipper to have the container refilled. This action pattern is one that should be used with younger students, as it is far less complicated and one which they would be more familiar with than the up-and-down the line movement described earlier. Once the tin can is restocked, this person passes the container up the line. However, as people continue to empty their receptacles and join the back of their group, they will begin to move closer to the trash can which is being filled. Thus, there is a constant circling of the players on each team with the exception of the dipper(s). This variation is best used when the teams are spread out in straight lines rather than in a "U" or an "S" shaped formation. If one of these other configurations must be used and the more active version of the game is to be played, then the teacher should place a cone or traffic pylon a set distance away from the trash can which is being filled to designate where students must run before returning the container to the dipper.

Helpful Hints

As the activity progresses, extra pellets will need to be emptied into the trash can near the dipper. This is required because it might be difficult to fill the tin can when more than half of this trash can has been emptied. Additionally, some spillage will occur even if students exercise care.

This game takes on a special air of excitement when water is substituted for the styrofoam pellets. If water is used, the game must be played out-of-doors when weather permits. Some splashing will occur regardless of how careful the participants are. While it would be advisable for students to remove their shoes and socks, this might not be possible because of safety concerns. Much of the spillage can be avoided if the equipment is altered to include smaller trash cans, medicine cups, and plastic cups or plastic glasses in lieu of the tin cans. If these suggestions are implemented, removal of footgear would not be necessary.

When using a hose to supply the water, a teacher will need to fill the containers designated as the water source before the activity begins. Periodically, during the activity, add water to the trash cans which are being emptied. When only one teacher is present, set your teams up in a "U" shape so that you can monitor the teams filling the trash can, as well as be in charge of the hose.

If an existing water source is available such as a pond, creek or pool, then have the students spread out in straight lines. Be certain that when you set the empty trash cans in place, that they are on a level surface. If they are positioned on different inclines, one group of students will be at a disadvantage.

Another material which can be used to fill the containers is sand. Some schools have outdoor play equipment which has been anchored in a bed of sand, or they might even posses a sandbox. If this medium is used, be sure to set the teams up in such a manner that it will be easy to return the sand to its original location. Another option is that once the trash can has been filled, require that it be emptied bucket by bucket to the place from where the sand was taken, before a winner is declared.

Students seem to enjoy this activity regardless of the size of the equipment which is used. If large industrial sized garbage cans are utilized, an excellent place to find them is in your school cafeteria or occasionally in the school hallways.

OH DEER!

OBJECTIVES: Students will be able to: 1) identify and describe food, water, and shelter as three essential components of habitat; (2) describe the importance of good habitat for animals; (3) define "limiting factors" and give examples; and (4) recognize that some fluctuations in wildlife populations are natural as ecological systems undergo a constant change.

METHOD: Students become "deer" and components of habitat in a highly-involved physical activity.

BACKGROUND: A variety of factors affects the ability of wildlife to successfully reproduce and to maintain their populations over time. Disease, predator/prey relationships, varying impacts of weather conditions from season to season (e.g. early freezing, heavy snows, flooding, drought), accidents, environmental pollution, and habitat destruction and degradation are among these factors.

Some naturally-caused as well as culturally-induced limiting factors serve to prevent wildlife populations from reproducing in numbers greater than their habitat can support. An excess of such limiting factors, however, leads to threatening, endangering, and eliminating whole species of animals.

The most fundamental of life's necessities for any animal are food, water, shelter, and space in a suitable arrangement. Without these essential components, animasl cannot survive.
The activity is designed for students to learn that:

a) good habitat is the key to wildlife survival;
b) a population will continue to increase in size until some limiting factors are imposed;
c) limiting factors contribute to fluctuations in wildlife populations; and
d) nature is never in "balance," but is constantly changing.

Wildlife populations are not static. They continuously fluctuate in response to a variety of stimulating and limiting factors. We tend to speak of limiting factors as applying to a single species, although on factor may affect many species. Natural limiting factors, or those modeled after factors in natural systems, tend to maintain populations of species at levels within predictable ranges. This kind of "balance in nature" is not static, but is more like a teeter-totter than a balance. Some species fluctuate or cycle annually. Quail, for example, may start with a population of 100 pairs in early spring; grow to a population of 1200 birds by late spring; and decline slowly to a winter population of 100 pairs again. This cycle appears to be almost totally controlled by the habitat components of food, water, shelter, and space, which are also limited factors. Habitat components are the most fundamental and thereby the most critical of limiting factors in most natural settings.

This activity is intended to be a simple but powerful way for students to grasp some basic concepts: that everything in natural systems is interrelated; that populations of organisms are continuously affected by elements of their environment; and that populations of animals do not stay at the same static number year after year in their environment, but rather are continually changing in process of maintaining dynamic equilibria in natural systems. The major purpose of this activity is for students to understand the importance of suitable habitat as well as factors that may affect wildlife populations in constantly changing ecosystems.

MATERIALS area - either indoors or outdoors - large enough for students to run; e.g. playing field; chalkboard or flip chart; writing materials

Age: Grades 4 - 12

Subjects: Science, Math, Social Studies, Physical Education

Skills: application, comparing similarities and differences, description, discussion, generalization, graphing, kinaesthetic concept development, observation, psychomotor development

Duration: 30 - 45 minutes

Group Size: 15 and larger recommended

Setting: indoors or outdoors; large area for running needed

Conceptual Framework Reference: I.C.2., III.B., III.B.2., III.B.3., III.B.5., III.C., III.C.1., III.C.2., III.E., III.E.1., III.E.2., III.F., III.F.1., III.F.2., III.F.3., III.F.4., III.F.5., IV.C., IV.C.1., IV.C.2.

Key Vocabulary: habitat, limited factors, predator, prey, population, balance of nature, ecosystem

PROCEDURE

1. Begin by telling students that they are about to participate in an activity that emphasizes the most essential things that animals need in order to survive. Review the essential components of habitat with the students: food, water, shelter, and space in a suitable arrangement. This activity emphasises three of those habitat components - food, water, and shelter - but the students should not forget the importance of the animals having sufficient space in which to live, and that all the components have to be in a suitable arrangement or the animals will die.

2. Ask your students to count off in four's. Have all the one's go to one area. Mark two parallel lines on the ground or floor ten to 20 yards apart. Have the one's line up behind the other line; the rest of the students line up behind the other line.

3. The one's become "deer" All deer need good habitat in order to survive. Ask the students what the essential components of habitat are again: **food, water, shelter,** and **space in a suitable arrangement.** For the purposes of this activity, we will assume that the deer have enough space in which to live. We are emphasizing food, water, and shelter. The deer (the one's) need to find food, water, and shelter in order to survive. When a deer is looking for **food,** it should clamp its hands over its stomach. When it is looking for **water,** it puts its hands over its mouth. When it is looking for **shelter,** it holds its hands over its head. A deer can choose to look for any of its needs during each round segment of the activity; **the deer cannot, however, change what it is looking for;** e.g. when it sees what is available, **during that round. It can change again what it is looking for in the next round, if it survives.**

4. The two's, three's, and four's are food, water, and shelter - components of habitat. Each student gets to choose at the beginning of each round which component he or she will be during that round. The students depict which component they are in the same way the deer show what they are looking for; that is, hands on stomach for food, etc.

5. The game starts with all players lined up on their respective lines (deer on one side; habitat components on the other side) - **and with their backs to the students at the other line.**

6. The facilitator or teacher begins the first round by asking all of the students to make their signs - each deer deciding what it is looking for, each habitat component deciding what it is. Give the students a few moments to get their hands in place - over stomachs, mouths, or over their heads. (As you look at the two lines of students, you will normally see a lot of variety - with some students water, some food, some shelter. As the game proceeds, sometimes the students confer with each other and all make the same sign. That's okay, although don't encourage it. For example, all the students in habitat might decide to be shelter. That could represent a drought year with no available food or water.)

7. When you can see that the students are ready, count; "One...Two...Three..." At the count of each three, each deer and each habitat component turn to face the opposite group continuing to hold their signs clearly.

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8. When deer see the habitat component they need, they are to run to it. Each deer must hold the sign of what it is looking for until getting to the habitat component person with the same sign. Each deer that reaches its necessary habitat component takes the "food," "water," or "shelter" back to the deer side of the line. This is to represent the deer successfully meeting its needs and successfully reproducing as a result. Any deer that fails to find its food, water or shelter dies and becomes part of the habitat. That is, in the next round, the deer that died is a habitat component and so is available for food, water, or shelter to the deer who are still alive.

NOTE: When more than one deer reaches a habitat component, the student who gets there first survives. Habitat components stay in place on their line until a deer needs them. If no deer needs a particular habitat component during a round, the habitat component just stays where it is in the habitat. The habitat person can, however, change which component it is from round to round.

9. You as the facilitator or teacher keep track of how many deer there are at the beginning of the game, and at the end of each round you record the number of deer also. Continue the game for approximately 15 rounds. Keep the pace brisk, and the students will thoroughly enjoy it.

10. At the end of the 15 rounds, gather the students together to discuss the activity. Encourage them to talk about what they experienced and saw. For example, they saw a small herd of deer (seven students in a class of 28) begin by finding more than enough of its habitat needs. The population of deer expanded over two to three rounds of the game, until the habitat was depleted and there was not sufficient food, water, and shelter for all the members of the herd. At that point, the deer starved and died of thirst or lack of shelter, and they returned as part of the habitat. Such things happen in nature also.

11. Using a flip chart pad or an available chalkboard, post the data recorded during the game. The number of deer at the beginning of the game and at the end of each round represent the number of deer in a series of years. That is, the beginning of the game is year one, each round is an additional year. Deer can be posted by five's for convenience. For example
:

> The students will see this visual reminder of what they experienced during the game: the deer population fluctuated over a period of years. This is a natural process, as long as the factors which limit the population do not become excessive, to the point where the animals cannot successfully reproduce. The wildlife populations tend to peak, decline, and rebuild, peak, decline, and rebuild - as long as there is good habitat and sufficient numbers of animals to successfully reproduce.

12. In discussion, ask the students to summarize some of the things they have learned from this activity. What do animals need to survive? What are some of the "limiting factors" that affect their survival? Are wildlife populations static, or do they tend to fluctuate, as part of an overall "balance of nature?" Is nature ever really in "balance," or are ecological systems involved in a process of constant change?

MUSKOX MANEUVERS

OBJECTIVES Students will be able to: 1) evaluate the effectiveness of some adaptations in predator/prey relationships; and 2) describe the importance of predator/prey relationships as limiting factors in wildlife populations.

METHOD Students simulate muskoxen and wolves in a highly involving game of physical activity.

BACKGROUND The muskox is a large, shaggy herbivore called "omingmak" or "the bearded one" by the Eskimos, or Inuit (ee-new-eet), as they prefer to be called. A male muskox may weigh over 600 pounds at maturity, and mature females about 350 pounds. A young muskox may weigh only 19 pounds at birth. These animals are inhabitants of the arctic regions of Alaska, Greenland, and Canada.

Muskoxen often are found in herds of 20 to 30. Both sexes will vigorously defend the young, usually forming a line or circle around them, facing the threatening predator. Such a circle renders the animals relatively safe against natural predators, particularly wolves.

In this activity, the roles of bulls and cows are differentiated in ways not typical of actual muskoxen. Again both sexes vigorously defend the young.

The major purpose of this activity is for students to recognize adaptation and limiting factors in a predator/prey relationship.

NOTE: This activity was inspired by a "New Game," and adapted to teach concepts related to wildlife. Although this activity does not illustrate all the complexities of predator/prey relationships, it does illustrate broad concepts.

MATERIALS: two different colours of rag "flags" twelve of one colour, three of another

PROCEDURE:

NOTE: The following procedures will be based on a group size of 33 students. The activity will work with as few as 15 students, and the group size can be increased to approximately 50. Simply adjust the categories of muskoxen proportionately (approximately four times as many of both calves and cows as wolves; two times as many both calves and cows as bulls; e.g. four calves, four cows, two bulls, one wolf).

1. This is a highly involving activity! It is best done outdoors, in an open, grassy area; however, it is possible to do the activity indoors - even in a classroom - if tables, chairs, and desks can be moved in order to create a large space in which students can do some moving, including "tag-like" running.
2. Once you have established an appropriate physical area for the activity, divide your group of 33 students into four groups, consisting of three wolves, six bulls, 12 cows, and 12 calves. Each will have a distinctive role. Provide each calf with a long, brightly-coloured rag "flag". The flag should be affixed to the calf's body in a way that it could - if it were within reach - be removed by a wolf. Back pockets are ideal! Each wolf should also have a rag "flag" - of a different colour than those worn by calves. The wolves should also wear their flags in a secure but accessible manner.
3. The activity provides students with an opportunity to experience adaptation behavior of both muskoxen and wolves. Muskoxen, herbivores, often graze peacefully in meadowed areas. While grazing, they spread out. Calves typically do not stray too far from their mothers, but the animals do not always stay clustered...except when predators appear! Begin the activity with the students grazing peacefully as muskoxen, and the wolves out of sight of the herd.

4. These are the behaviors each animal should exhibit:

Cows: As soon as grazing begins, the cows should choose a lead cow to watch for predators. The cows should pick a signal the lead cow will use to communicate to the rest of the herd that predators are approaching. When the lead cow signals that predators are near, all the cows move to form a circle around the calves to protect the calves from the wolves. With the calves in the center of a circle, the cows stand with their backs to the calves, facing outward to watch the wolves. The cows can move very little. Mostly, they stay firmly in one place, moving their upper bodies to block the wolves from reaching the calves. The cows cannot touch the wolves with their hands or feet.

Calves: The calves depend totally upon the cows for protection. Each calf is to hold onto a cow with both hands, around the cow's waist, and only follow the cow's lead. Calves cannot influence the cow's movement. **Bulls:** The bulls are the active defenders of the cows and the calves. As the predators near, the bulls form a circle around the cows, who in turn are forming a circle around the calves. The bulls form as tight a circle as they can around the cows and the calves, never any farther than one step in front of the circle of cows. The bulls can move, however - but only in clockwise direction around the circle of the cows! The bulls do have use of their hands. As the wolves attack the herd, the bulls try to "kill" them by pulling the flag out of their back pocket, or wherever the flag is attached to the wolf. When a bull kills a wolf, the wolf moves off to the side, "dead", but able to watch the remainder of the activity.

Wolves: Wolves begin the activity out of sight of the herd. They try to get as close as possible to the herd without being detected. Wolves typically work as a unit, so they can attempt a strategy for surprising the herd in order to kill the calves for food. The wolves are mobile, able to move at any time in any direction. They can use any manoeuvre (except pushing and shoving) to break the herd's defenses. Once a wolf kills a calf -by pulling the calf's flag out of its pocket - temporarily stop the game and move the calf's carcass aside, where it too can watch the remainder of the activity!

A Note About Sound Effects: This is not a quiet game much of the time. Wolves should be howling, communicating with each other in predetermined ways with signals, and as part of their tactics to startle and confuse the muskoxen. The muskoxen moo loudly.

5. **Muskoxen Maneuvers in Review:**

a) Muskox herd grazes quietly. Wolves are out of sight of herd.

b) Wolves move in to attack herd.

When the lead cow spots wolves, the herd begins defense. A circle is formed, with calves in the center, cows facing out in a circle around the calves, and bulls in an outer circle also facing the wolves. Each should behave appropriately, as described above.

6. The activity can conclude in several ways. For example:

a) All the wolves could be killed.

b) All the calves could be killed.

c) The wolves could give up in frustration after a period of time with no success in killing a calf.

d) The wolves could kill one or more calves, and the activity conclude at this time, based on the notion that the wolves are going to eat the calf (calves) and the herd move on.

7. Once the excitement and enthusiasm have peaked - sit down with the students to discuss what happened, and what the activity represents in terms of animal adaptation, predator/prey relationships, and limiting factors. Ask the students to describe and evaluate the predatory behavior of the wolves, and the various defense behaviors of the muskoxen... What would happen if the wolves could not get into the herd? What would happen if the wolves always got into the herd. Ask the students to distinguish between what would be actual, typical behaviors of muskoxen contrasted with their behaviors in this activity.

EXTENSIONS

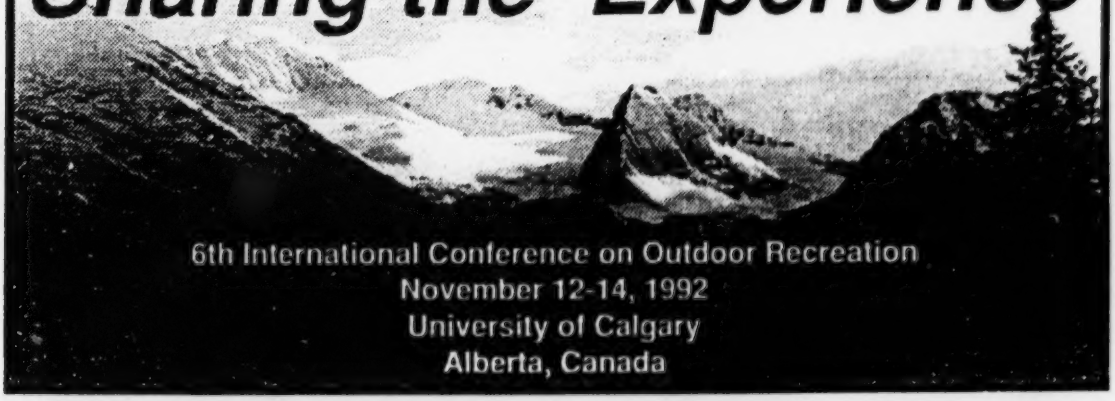
1. A few students can research and report back to the class with more details about the life and times of muskoxen and wolves - acquiring additional information about their survival needs, habitat, and behaviors.
2. Investigate predatory and defense behaviors of different species in different habitats. For example, selected species of plains, forest, desert, and ocean animals can be compared.
3. Plan a class and parent picnic. Let it be a potluck - with an after dinner activity, "Muskox Maneuvers". It could be good exercise, good fun, and a worthwhile sharing of teaching and learning!

EVALUATION

Name a pray species and its predator species. Describe how each is adapted to the other . How does the pray protect itself? How does the predator overcome this protection? Describe the overall effectiveness of each animal's adaptation.

Phillip Heeg is currently responsible for policy development and operational guidance for the entire spectrum of Air Force outdoor recreation programs.

Sharing the Experience



6th International Conference on Outdoor Recreation
November 12-14, 1992
University of Calgary
Alberta, Canada

8:30 - 10:30 a.m. Thursday , November 12

MacEwan Hall Ballroom	**Registration**	**8:30 - 10:30 a.m.**
	Exhibits Open	**8:30 - 10:30 a.m.**
	Conference Site Tours	**9:00, 9:30, 10:00 a.m.**

10:30 - 11:30 a.m.

MacEwan Hall Ballroom
1 hour

Keynote Address - ICOR - Navigating Our Organization Toward the 21st Century
David Secunda, O.R.C.A., Outdoor Network
Effectively steering our "non-association" forward can be compared to maneuvering a helicopter in for a difficult landing: It's difficult enough gently bringing a familiar craft to rest on the flat earth. Yet in our situation, it seems that the winds are constantly shifting, the open area is small, and to top it off the passengers keep hopping from one side to the other. Where are we now, where have we come from, and where are we going as an organization? Let's pause for moment to examine the possibility of a smooth landing that benefits us all.

11:30 a.m. - 1:00 p.m.

MacEwan Hall Ballroom

Conference Lunch
Deli Buffet
Exhibit Hall open

Throughout the Conference

Outdoor Program Centre
PEB-180
30-45min
Sign up sheets at Opening Sessions each day

University of Calgary Outdoor Program Centre Tour
Outdoor Program Centre Staff
This tour will take participants "behind the scenes" at the University of Calgary Outdoor Program Centre for a closer look at the Rental, Programming, Service and Retail operations.

Outdoor Program Centre
PEB-180
15 min
Sign up sheets at Opening Sessions each day

University of Calgary Climbing Room Orientation
Outdoor Program Centre Staff
A brief introduction to the Indoor Climbing Room, the rules and procedures for its use and the opportunity to obtain the information needed for the informed consent to sign a Climbing Room Liability Waiver.

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1:00 - 2:30 p.m. Thursday, November 12 — Block #1

U of Calgary Aquatic Centre Pool
2 hours

Canoe Rolling Clinic
Steve Chambers, University of Calgary
This pool workshop introduces the canoe roll as a valuable self rescue tool for whitewater canoe paddlers. The session will work through a learning/teaching progression which will enable paddlers to practice their roll and effectively teach others.

U of Calgary Aquatic Centre Pool
2 hours

The "Warm Splash": Windsurfing Basic in the Pool
Darrell Cyr, University of Calgary
This participation session will present a model instructional format that introduces basic windsurfing skills with a focus on fun and success in the controlled pool environment.

PEB-129
45 min - 1 hour

Conducting Outdoor Programs Daily Operations with Minimal Impact upon the Environment
Wayne Morford, Miami University of Ohio
Get involved in finding out how you can improve your daily program operations by incorporating environmentally safe practices in such areas as: purchasing, resource use, disposal/reusing, hazardous materials, use of forms/paper, educational resources, services/programs/activities.

PEA-160
1 hour

Computers 4D Outdoors
Dave Garcia, Dan Tillemans, Cornell University
This presentation will use an overhead computer screen to present Cornell University's recently completed computer program. The program is written for Macintosh computers in 4th Dimension (4D) software and integrates virtually all aspects of university based outdoor programs: membership lists, mailings, course registration, course scheduling, 365 day equipment reservation system, retail sales, library checkout, pro-orders, inventory, purchasing, invoicing, reports, instructor records and contracts, payroll, etc. The presentation will include a question and answer session. Cornell has spent over $20,000 in programming hours to develop this customized software and is willing to sell the program to interested parties to recoup some of the cost.

PEB-132
1 hour

Improving the Odds: Backcountry Powder Skiing in Avalanche Terrain
Tony Daffern, Rocky Mountain Books
A decision making process to assist powder hounds (telemarkers, snowboarders, extreme skiers) to choose suitable slopes based on avalanche hazard reports and to outline a procedure for evaluating snow stability and recognizing signs of instability.

PEB-126
1.5 hour

Regional Conferences: A Great Way to Train Everyone's Staff
Jim Lustig, San Diego State University
Pete Ryan, University of San Diego
The Western Regional Outdoor Leadership Conference, an annual gathering of outing guides, is a success story in cooperative staff training. Based on the example of the W.R.O.L.C., this session reviews the benefits of such conferences in terms of student participation, learning, sharing and networking. Logistical considerations and session ideas and formats are presented and practised in a conference planning exercise.

2:30 - 3:00 p.m. Coffee Break

3:00 - 4:00 p.m. Thursday, November 12 — Block #2

MacEwan Hall Ballroom 1 hour	**Invisible Summits: Discovering your own MAP* for the Journey of Life"** **(*Meaning and Purpose)** **Jim Fullerton, University of Nebraska-Lincoln** Challenge yourself to discover and create your own "MAP for LIFE" that will focus attention on your highest values and goals (invisible summits). Principles of human development through higher education will be supported by inspirational quotes, scenes of mountain climbing and examples of exceptional human endeavour.
PEB-129 1 hour	**Outdoor Program Management: Group Discussion** **Ron Watters, Idaho State University** This is a group discussion designed for practitioners in college or university outdoor programs. We will look at management issues- personnel, pay, budgets, conflicts, politics- and discuss how each of us deals with these issues in our own programs.
PEB 132 1 hour	**Banff Festival of Mountain Films** **Bernadette Macdonald, Anne Ryall, The Banff Centre** Highlight clips from the best films of the Banff Festival of Mountain Films along with information about how to bring the "Best of the Festival" to your campus.
PEA-160 1 hour	**Computers 4D Outdoors Lab Session** **Dave Garcia, Dan Tillemans, Cornell University** A 1 hour lab to follow-up the Computer 4D Outdoors presentation for hands on work with the software package. Cornell staff will be available to assist and provide information.
PEB-126 45min - 1 hour	**The Rutschblock Test for Evaluating Snow Stability in the Backcountry** **Bruce Jamieson, Canadian Avalanche Association** In the last few years, the Swiss rutschblock test has gained popularity in North America. The session will cover rutschblock technique and interpretation of results, as well as summarize recent research on limitations and slope effects.

4:00 - 5:00 p.m.

PE B-126 1 hour	**Group Session: ICOR Issues** **David Secunda, O.R.C.A & Outdoor Network** Steering Committee reports and recommendations, future directions. - mission statement - organization/affilliation

5:00 - 7:00 p.m.

Dinnie's Den	**Informal Conference Social Mixer** Evening social (party about the city) planning session.

7:00 p.m. - ?

About Calgary	Evening supper & entertainment on your own.

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8:00 - 9:00 a.m. Friday, November 13

MacEwan Hall Ballroom	**Continental Breakfast**

9:00 - 10:15 a.m. Block #3

PEB-180 + PEA Basement + PE Outside Wall & Tower 1hour 15 min	**Climbing Walls #1 - Tour of the University of Calgary Climbing Walls** **Murray Toft, Matt Lunny, University of Calgary** This is a tour of the University of Calgary climbing walls, which represents both the history and the variety of climbing wall design.
PEB-152 1 hour	**An IBM Compatible Participant Data Base System for Outdoor Programs** **Ron Watters, Idaho State University** This session presents an IBM compatible software package which does the following: maintains participant data base including addresses, student status, and outdoor interest areas; provides mailing lists of selected outdoor interests or demographics, records donations and provides lists of donors who should be recognized and receive thank-you letters; and produces a file which can be processed by the US Post Office computer software to make address corrections and add zip+4 extensions for less expensive bulk mailing rates. As long as the software is used by non-profit schools or organizations, there is no fee for its use. Participants who provide an IBM formatted disk can copy the software files. A copy of DBase4 is required to run the program.
PEA-160 1 hour 15 min	**Moving Ahead: Program Evaluation and Review as Tools for Growth, Part 1** **Bruce Hendricks, University of Calgary** We will discuss and put to use a collaborative model aimed at those who want to evaluate program performance and quality with limited resources (money, people, time). Half the workshop will be definitions, explanations and discussion. The remaining half will be application and adaptation of the review process to actual situations presented by participants in small groups.
PEB-132 1 hour	**Liability for Sexual Contact between Guides and Guests in Outdoor Recreation** **James H. Moss, P.C., Trial Attorney, Denver, Colorado** Based on theories of liability successfully used against the clergy, doctors and therapists, is there liability for sexual contact between guests and guides in outdoor recreation programs? Can a program be held liable for sexual relationships between two guests, or between guests who are under the statutory age?
U of Calgary Aquatic Center Pool 3 hours	**Sea Kayak Rescue Workshop** **Cree Reilley, University of California-Berkley** **Mike Ruthenberg, University of California-San Diego** **Calum Macdonald, University of Calgary** This hands-on session at the University of Calgary Pool will model basic rescue techniques that can be taught to beginning sea kayak students. Participants will be encouraged to try rescues and join in a discussion of variations on standard rescues and the merits of different types of rescues for instructional purposes. Eskimo rolls will not be a primary focus.

10:15 - 10:30 a.m. Coffee Break

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10:30 - 12:00 a.m. Friday, November 13 — Block #4

PEB-126
1 hour

Keeping the Fire Burning: How to Avoid Professional Burn-Out and Hold on to the Inspiration.
David Secunda, O.R.C.A. & Outdoor Network
Are you spending less time out of doors and more time behind a desk than you ever dreamed possible? Are you growing more similar to the corporate executive than the outdoor educator in your roots? Then come join us in a participatory journey towards balance in the workplace. We will get back to the basics and re-grasp the magic in outdoor programming. Bring your inspiring stories, effective strategies and innovative ideas. This session will be an interactive sharing of what works and what doesn't.

PEB-132
1.5 hours

Climbing Walls #2 - Design and Construction of Indoor Climbing Walls
Dan Tillemans, Cornell University
Murray Toft, University of Calgary
Glenda Hanna, University of Alberta
Climbing walls are becoming increasingly popular on campuses, in recreation centres and in the private sector. This panel discussion will look at issues related to securing, designing and building climbing walls. A wide variety of climbing wall designs are represented by the panelists. The session will include video and slide presentations on various climbing facilities. This session follows a tour of the University of Calgary climbing walls.

PEB-160
1 hour 15 min

Moving Ahead: Program Evaluation and Review as Tools for Growth, Part 2
Bruce Hendricks, University of Calgary
Second half of this session.

MacEwan Hall Ballroom
1.5 hours

Innovative Outdoor Recreational Games: Principles and Practices
Brenda Lichtman, Mary Keck, Sam Houston State University
Barbara Klingman, Western State College-Gunnison
Creating novel approaches isn't a random process, but is founded upon principles which can be adapted to outdoor recreational settings. Fun filled educational activities based upon abstracts from television, video and recreational board games which foster ecological sensitivity and group interaction through a unified approach toward goal achievement will be presented.

PEB-133
1.5 hours

Listening to Your Inner Voice: Using your Intuition in Outdoor Leadership
Janice Cook, University of Calgary
Exceptional outdoor leaders base group process and safety management decisions on their "gut" feelings. This interactive workshop will explore intuitive knowledge, ways of developing it and how outdoor leaders can use intuition. Participants will actively engage in exercises involving metaphor and symbols designed to help intuition.

12:00 - 1:00 p.m.

Lunch - On your own. **Max's Cafe has space reserved for conference delegates**

1:00 - 2:00 p.m.

Max's Cafe
45 min

Group Session: Future Conference Sites
David J. Webb, Brigham Young University
An open session at which presentations in support of future conference locations and dates will be made and selected.

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1:30 - 3:15 p.m. Friday, November 13 — Block #5

U of Calgary
Aquatic Centre Pool
1.5 hours

SCUBA entry experience "Bubble Session"
Darrell Cyr, University of Calgary
This is a "hands on" SCUBA experience that starts with an overview of the basics and ends with underwater experience in the pool. Approaches to setting up and running a university SCUBA program will be covered.

Outdoor Program Centre
PEB-180
30- 45 min
Several Sessions
Limited of 6 people in each session.

Demonstration of the Rental/Event Registration/Customer Database Computer System at the University of Calgary Outdoor Program Centre
Jamie Parkin, University of Calgary
The computer system used by the University of Calgary Outdoor Program Centre has many facets, including: rental equipment inventory control, rental workorder generation, customer data base linked to the U of Calgary student/staff I.D. system, event registration and revenue accounting. Management functions include on-line purchasing, financial reporting, electronic mail and database analysis. These small-group sessions will demonstrate the operation of these systems.

2:00 - 3:15 p.m. — Block #5

MacEwan Hall Ballroom
1 hour

Maximizing Potential: Ensuring Returns
Joe P. Pavelka, Campmate Consulting Services
Providing exceptional service to internal clients as well as external clients is the key to success in the future. Improving your organizations efficiency is the idea behind this session. Special emphasis will be placed on seasonal outdoor recreation organizations.

PEB-132
1 hour

Climbing Walls #3 - The Management of Climbing Walls
Dan Tillemans, Cornell University
Matt Lunny, University of Calgary
Judy Davidson, University of Alberta
The operation of a climbing wall presents a number of interesting challenges in terms of safety, risk management, access control, programming and liability. This panel will describe the procedures and policies that have evolved at their climbing walls.

PEB-160
1 hour

Staying Afloat
Mike Caveness, Montana State University
As rafts and accessories are major investments of both money and staff time, it is important to seek opportunities to "compare notes" on what works and what doesn't. This open forum session is geared to programs which include rafting equipment in their rental service, but schools which are considering this area will also benefit. Discussion will include selection/procurement, maintenance/care, damage/repair, user policies/ procedures and other related topics.

PEB-236
1 hour

Why Is Outdoor Recreation worth $30 Million to the Air Force?
Phillip Heeg, U.S. Air Force Outdoor Recreation
Under its CORPORATE FOCUS initiative, the Air Force expects more than fun and games for its investment in outdoor recreation. Based on research and experience, the Air Force expects its programs to produce family well being, fitness, unit and community cohesion and improved quality of life.

3:15 - 3:30 p.m. Coffee Break

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3:30 - 5:30 p.m. Friday, November 13 — Block #6

PEB-126
2 hours

Risk Management and Litigation Avoidance in Outdoor Recreation Programming
James H. Moss, P.C., Trial Attorney, Denver Colorado
Glenda Hanna, University of Alberta
This session will use recent examples of U.S. and Canadian court decisions to illustrate trends in outdoor recreation related litigation. An emphasis will be placed on the avoidance of accidents and exposure to resultant litigation through the development of comprehensive risk management programs. This discussion will include the use of waiver forms,plus pre- and post- accident protocols that are important in reducing the likelihood and/or probable success of lawsuits.

PEB-132
2 hours

Outdoor Recreation and People with Disabilities
Marguerite Arsenault, Mike Watters, Equity Outdoors
Ross Watson, William Watson Lodge, Kananaskis Country
In the field of outdoor recreation and sport there is a growing need for instructors and professionals to develop skills necessary to include persons with disabilities into existing programs. Join Equity Outdoors to find out how to include persons with disabilities into outdoor recreation programs. Ross Watson will show a slide presentation on the 1990 Denali Disabled Expedition.

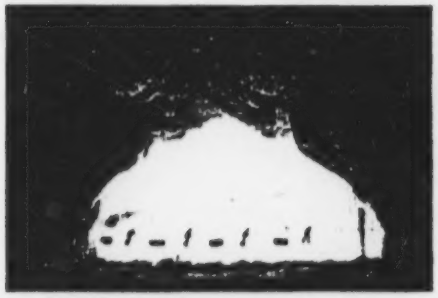
6:00 - 10:00 p.m. Banquet Dinner & Feature Presentation

6:00 - 7:00 pm
MacEwan Centre
Cocktails Max's Cafe & Lounge

7:00 - 8:30 pm
MacEwan Centre
Banquet Dinner at Max's Cafe & Lounge

8:30 - 10:00 p.m.
PEB-132

ARCTIC LIGHT Presentation by John Dunn, Arctic Adventurer



JOHN DUNN is so inspired by the Arctic that his goal is to complete a 5,000 km "human-powered" journey along the entire eastern edge of the Canadian Arctic. The first step on the way to this extremely challenging and distant goal was successfully completed in 1990. It took John and his Arctic Light team members 96 days to ski the length of Ellesmere Island. That 1250 kilometer expedition was the first north-to-south ski traverse of Canada's northernmost island.

ELLESMERE ISLAND EXPEDITION

The many facets of the Arctic Light team's pioneering traverse of Canada's most northernly island are interwoven with John's magnificent photographs in a presentation that is, above all, a celebration of the majesty and beauty of Canada's High Arctic wilderness.

You will not only learn the story of the Ellesmere Island Expedition but also fascinating details about the island's spectacular landscape, hardy flora and fauna, Inuit pre-history, and Ellesmere Island's key role in the history of the white man's obsession with reaching the North Pole.

John Dunn was born in England in 1954. He studied geology at London University and worked in the Australian Outback for 12 years before moving to Canada in 1987. John lives in Calgary with his wife Diane and their son Craig.

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9:00 - 10:00 a.m. Saturday, November 14 — Block #7

PEB-236
1 hour

Decision and Leadership - Where Does it Come From?
Jay Zarr, University of Southern Colorado
This seminar will examine transactional, transformational leadership and ten paradigms in making decisions in the outdoors. The latter part of the program will focus on comparing these paradigms with the everyday world. Examples of situations and role playing will be used.

PEB-127
1 hour

Outdoor Equipment Rental - Getting the Most Bang for your Buck
Mike Ruthenberg, University of California-San Diego
What works well in one equipment rental program may not in another. However, the principles of a successful rental operation are the same in any region of North America. We will focus on how to determine what is right for your program.

PEB-126
1 hour

Motion on Skis
Glen Cowper, Lifestride
"Motion on Skis" is a method of teaching cross country skiing that thrives on both creative leadership and creative participation. The primary goal is to have FUN, while covering the widest variety of movements on a pair of cross country skis. This classroom workshop will introduce some of the strategies used in planning a "Motion on Skis" experience and how to effectively attain certain technical and experiential goals in the process.

PEB-130
30 min

Climbing Walls & Climbing Injuries
Murray Maitland, University of Calgary
This session presents the results of a study which was undertaken to understand the clinical presentation of injured rock climbers as well as possible mechanisms of injury, particularly as they pertain to users of artificial climbing walls.

10:00 - 10:15 a.m. Coffee Break

10:15 - 12:00 a.m. — Block #8

PEB-127
1 hour

Political Impact: Can Outdoor Programs Make a Difference?
David Secunda, O.R.C.A. & Outdoor Network
Michael Moniz, Outdoor Network
Are you tired of being at the receiving end of the political process? This session will focus on the ways that we as a profession can be pro-active in the legislative arena. Bring your issues, ideas and inspiration to this interactive session. Discussion topics include: commercial permitting for educational programs on rivers, public land access for education, the permitting process, designation of wilderness, etc.

PEB-130
1.5 hours

Project Share: Integration in the Outdoors, a Team Approach
Judy Breese, Project Share Outdoor Society
Each summer since 1987, the Project Share Outdoor Society has developed an innovative, integrated program through partnerships with outdoor clubs. Hiking, archery, orienteering, canoeing, cycling and horseback riding are activities that Project Share has adapted. Learn how you can bridge the gap between outdoor recreation groups and agencies serving people with disabilities.

PEB-126
1 hour 45 min.

Outdoor Certification Models and Liabilities
Karl Klassen, Association of Canadian Mountain Guides (ACMG)
Glenda Hanna, Canadian Association of Nordic Ski Guides (CANSI)
Mike Keppel, National Association of Underwater Instructors (NAUI)
James H. Moss, P.C. Trial Attorney, Denver, Colorado
Bruce Hendricks, University of Calgary
This session will examine models representing guide, instructor and participant certification in a variety of outdoor pursuits. The discussion will focus on the strengths and limitations of each model and the liability that might attach to the certifying agencies.

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10:15 - 12:00 a.m. (con't) — Block #8

PEB-236
1.5 hour

Going Wild with Teamwork!
Carol Patterson, Kalahari Management Inc.
Carol will be discussing her program "Going Wild with Teamwork" which is a unique, innovative and effective approach to building teamwork within an organization."Going Wild with Teamwork" gives employees facing team responsibilities the knowledge to cope with these changes. Why does "Going Wild with Teamwork "work? The answer is involvement.

12:00 - 2:30 p.m.Closing Banquet & Feature Presentation

12:00 noon - 1:30 pm — Closing Banquet Luncheon - Dining Centre "Blue Room"

1:30 - 2:30 pm
Dining Centre
"Blue Room"

Mountains of Challenge
Sharon Wood, One Step Beyond

Sharon Wood has lived in the Canadian Rockies for nearly 20 years and during that time became the first Canadian woman to become an internationally certified climbing guide. For the past 10 years she has worked as a mountain climbing instructor/guide and as a heli-skiing guide.

In 1977, in the company of five women, Sharon climbed the highest mountain in Canada, the 19,540' Mt. Logan. Two of her more outstanding solo experiences took place in Peru in 1985, when she climbed the West Face of Tocllararju at 19,900' and the North Face of Ranrapalka at 20,350' high alone. Her most memorable team experience occurred in1984, when she joined a small team of five men to make a very bold attempt on Makalu, the fifth highest mountain in the world at 27,825. It was a monumental effort involving three months above 18,000' , but the effort failed just 300' from the summit.

In 1986, Sharon Wood and Dwayne Congdon reached the 29,028' summit of Mt. Everest and in doing so, she became the first North American woman to stand on the top o fthe world. The accomplishment was recognized with an Honorary Doctor of Laws Degree from the University of Calgary and with the inaugural presentation of the Tenzing Norgay Award as "Professional Mountaineer of the Year" from the American Alpine Club and the New York Explorers' Club.

Sharon Wood has been to the top of the world and back. Hers is a compelling story about the odds. Today as a mother of two sons, she continues to climb towards goals of a different sort. Recognizing that the challenges of Everest parallel those of most striving individuals and organizations, she shares with us the learning she most prizes from her mountain experiences - how to live and work every day closer to our true potential.

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Speaker Biographies

Marguerite Arsenault has a degree in Physical Education from the University of New Brunswick. She has been involved in community recreation for eight years and over the past four years has been involved in recreation for persons with disabilities. Currently she is the Executive Director of the Association for Equity Outdoors.

Judy Breese is a member of the Project Share Outdoor Society, and has worked in outdoor recreation for many years. She holds a BPE in Outdoor Pursuits from the University of Calgary.

Steve Chambers is a certified ARCA and ORCA whitewater canoe instructor, a Nordic Ski Guide & CANSI telemark instructor. He coordinates several parts of the rental and activity areas at the University of Calgary Outdoor Program Centre.

Janice Cook teaches Outdoor Leadership as part of the Outdoor Pursuits Program at the University of Calgary. During the past 15 years, Janice has taught adventure activities, including kayaking, rock climbing, mountaineering and nordic skiing in a variety of outdoor programs.

Glen Cowper has been working exclusively in the area of cross-country ski instruction and leadership for the past 10 winters. Since 1987 he has founded and head coached a very successful family ski club, has formed and developed his own consulting company, (Lifestride) and has been involved with both child and adult program development at the provincial and national levels. He is a CANSI level 3 instructor/examiner, an NCCP coach, and a Master Course Conductor for the Jackrabbit Ski League (the national children's learn-to-ski program).

Darrell Cyr is a graduate of the University of Calgary Outdoor Pursuits program and has a background as a NAUI SCUBA diving instructor and Canadian Yachting Association (CYA) windsurfing instructor.

Tony Daffern is an active climber, skier, and publisher of outdoor guide books about the Canadian Rocky Mountains. He is the author of Avalanche Safety for Skiers and Climbers.

Judy Davidson directs and manages the facilities and programs offered through the University of Alberta Campus Outdoor Centre. She promotes and facilitates use of the climbing wall facility through non-credit courses, group bookings and recreational use opportunities.

Gerald Edwards
Canadian Institute of Safety, Search & Rescue

Dave Garcia currently lives in Cornvalis, Oregon where he works part time as a computer programmer and leads trips for Oregon State University Outdoor Recreation. Until recently ,Dave worked full time as Equipment Manager and Outdoor Instructor for Cornell University Outdoor Education in Ithaca, NY, where he developed a comprehensive computer software package for outdoor programs. He has completed the NOLS Instructor Course, has a masters degree in Structural Engineering, and is a WEMT.

Glenda Hanna, Ph.D. is an Assistant Professor of Outdoor Environmental Leadership in the Department of Physical Education & Sport Studies at the University of Alberta. She is the recent author of Outdoor Programming Pursuits: Legal Liability and Risk Management. Glenda initiated the building of an indoor climbing wall facility at the University of Alberta and also instituted and currently coordinates academic credit courses offered on this climbing wall. She is also the technical director of the Canadian Association of Nordic Ski Instructors (CANSI).

Phillip Heeg has experience as an environmental education specialist, recreational land lease agent, and camp director. Currently, he's responsible for policy development and operational guidance for the entire spectrum of Air Force outdoor recreation programs, from off-base recreation areas to outdoor adventure activities. He also provides direction for all outdoor recreation training programs, including the Management Training Center, Mt. Home AFB, ID.

Bruce Hendricks is a faculty member at the University of Calgary in the Outdoor Pursuits Program. He has worked for a variety of outdoor programs in Canada, the U.S. and in Europe, and has guided in both North and South America. He has served as a consultant in areas of program planning, curriculum design and program evaluation. He holds a valid teaching certificate and an M.Ed. in Curriculum and Instruction.

Bruce Jamieson - Bruce has been a ski tourer for 16 years, avalanche awareness instructor for 8 years and an avalanche safety instructor for professionals for 2 years. He is currently an Engineering PhD student at the University of Calgary, investigating persistent slab instabilities. He is the current president of the Canadian Avalanche Association.

Mary Keck (M.Agr. Texas A & M) is the Outdoor Recreation Sports Director at Sam Houston State University in Texas. She is involved both professionally and personally with all phases of outdoor recreation.

Michael Keppell, originally from Australia, has a background as a Physical Education teacher. Mike has qualifications and teaching experience in backpacking, climbing, orienteering, and kayaking. As a N.A.U.I. certified SCUBA diving instructor, Mike has set up and is running the Scuba Programs at the University of Calgary, Outdoor Program Centre.
Karl Klassen is a mountain guide with Canadian Mountain Holidays, an avalanche course instructor for the

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Canadian Avalanche Association and a Training and Certification Program Instructor/Examiner with the Association of Canadian Mountain Guides. He has guided in the U.S.A., Switzerland and New Zealand and is the Canadian technical delegate to the Union Internationale des Associations des Guides de Montagne (UIAGM). He is currently a member of the UIAGM delegation to study the American Mountain Guides Association's application to join the UIAGM.

Barbara Klingman (Ed.D. William & Mary) is a specialist in outdoor education who has recently moved from Sam Houston State University to assume the Recreation Director position at Western State College in Gunnison CO.

Brenda Lichtman (Ph.D. University of Maryland-College Park) is a professor in the Kinesiology department of Sam Houston State University. She has taught classes and conducted over 20 workshops based upon principles used to create innovative games.

Matthew Lunny is an ACMG Rock Climbing Instructor who manages the climbing programs for the University of Calgary Outdoor Program Centre.

James Lustig is the Outdoor Programs Coordinator at the San Diego State University Leisure Connection. He was a member of the steering committee for the second annual Western Regional Outdoor Leadership Conference, in 1992.

Calum MacDonald manages the rental program and coordinates and instructs the sea kayak program at the University of Calgary Outdoor Program Centre. He is a CRCA certified canoe instructor, AWA kayak instructor and is on the education committee for the Trade Association for Sea Kayaking (TASK)

Bernadette Mcdonald
Banff Festival of Mountain Films

Wayne Morford is the Associate Director, Outdoor Program Coordinator at Miami University of Ohio. He previously worked in Lake Tahoe and received BS & MS degrees from Iowa State University, & enjoys all outdoor pursuits especially, sea kayaking, sailboarding, and snowboarding.

James Moss is a Denver area trial attorney specializing in recreation risk issues. He represents a number of recreational risk insurers, recreational equipment manufacturers and outdoor guides and outfitters. He has authored the liability section of the Outdoor Programmers Resource Guide.

Carol Patterson

Jamie Parkin is a graduate of the Lakehead University Outdoor Recreation & Geography programs (Thunder Bay ,Ontario). He has worked in the field of Outdoor Receation for a number of years. He holds certification as a CRCA whitewater canoeing instructor, CYA Advanced Sailing. Jamie has been working with the University of Calgary Outdoor Program Centre for the past four years instructing, guiding & coordinating programs. He also coordinates and manages the computer system used at the U of C Outdoor Program Centre.

Joe Pavelka spent six seasons guiding outdoor trips in the Rockies and Northern Ontario then onto several management positions in summer camps and outdoor programs across Canada. He has an Outdoor Recreation degree and Geography degree from Lakehead University and a MA from the University of Alberta.

Cree Reilley is co-director of the outdoor program at University of California Berkeley, and is an avid rock climber, sea kayaker and raft guide.

Mike Ruthenberg was a student guide and administrator at the outdoor program at San Diego State University. He started the outdoor recreation program (Outback Adventures) at the University of San Diego.

Anne Ryall is a graduate of the University of Calgary Outdoor Pursuits program who has spent recent summers working for Colorado Outward Bound. She is a senior level CANSI cross country and telemark instructor and works with the Banff Festival of Mountain Films in the off-season.

Pete Ryan is Director of Outdoor Recreation and Leisure Programs at the University of San Diego. He was a member of the steering committee for the second annual Western Regional Outdoor Leadership Conference, in 1992.

David Secunda is currently the Executive Director of the Outdoor Recreation Coalition of America and the Outdoor Network. In the past, he has worked as the Associate Publisher of Trilogy Magazine, the director of the Environmental Education Institute, and the Director of Outdoor Education at the University of Colorado. David received his bachelor of Arts in Psychology and Outdoor Recreation, Phi Beta Kappa, Magna Cum Laude , from the University of Colorado, Boulder. His roots in outdoor education lie in his work with Outward Bound in the US and abroad, and with Outdoor Leadership Training Seminars.

Alf Skrastins founded the Outdoor Program Centre at the University of Calgary in 1975 and has managed it ever since. He is a Nordic Ski Guide, Canadian Association of Nordic Ski Instructors cross country and telemark instructor, backpacking instructor and sea kayak guide.

Daniel Tillemans is the director of Cornell University Outdoor Education program in Ithaca, NY. He is responsible for the creation and management of the Lindseth Climbing Wall, one of the largest indoor climbing

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Speaker Biographies (con't)

walls in the US, completed in the spring of 1990. He has extensive administrative experience with outdoor programs and has helped to develop computer software that supports university-based programs. He has recently completed fundraising for a new Outdoor Program Center. Prior to 1984, Dan worked for NOLS and Prescott College as an instructor and program administrator.

Murray Toft is a faculty member in the Outdoor Pursuits program at the University of Calgary. He is also a certified mountain guide with the Association of Canadian Mountain Guides.

Ross Watson has a degree in Recreation Administration from the U of Alberta. He is currently employed by Tourism, Parks and Recreation as Manager of William Watson Lodge in Kananaskis Country. He is an outdoor enthusiast and a founding member of Equity Outdoors.

Mike Watters has a background in the area of Visual Arts. Mike spent the last year in England working with people with disabilities in outdoor recreation. He is the past Executive Director of Equity Outdoors. Mike also teaches sign language.

Ron Watters is the director of the Idaho State University Outdoor Program. Prior to his work at the University, he owned an outdoor equipment store in Pocatello. He has served on the Board of Directors of the American Whitewater Affiliation . He has been involved in the organization of these conferences since the first National Outdoor Recreation Conference in Bozeman, MT.

David J. Webb, B.S., M.A., CLP, has operated BYU Outdoor Unlimited since its beginning 10 years ago. He has served on both the NTRSA and the ACU-I Outdoor Recreation Committees 1988-91 and has been an organizer of the 3rd, 4th, 5th and 6th Outdoor Recreation Conferences. David has presented and published frequently, and is author of Outdoor Recreation Program Directory and Data/Resource Guide. David is the first recipient of the "Leadership Award" presented at the 1990 National Conference on Outdoor Recreation. David has instructor certifications in windsurfing, rock/mountain climbing, rafting and skiing.

Jay Zarr has a M.S. Experiential Education fromMankato State University. Presently he isthe Director of the University of Southern Colorado Experiential Learning Center (Outdoor Program, Challenge Rope Course, Drug & Alcohol Prevention, Leadership Programs). He is certified as a W.E.A. Instructor, P.S.I.A. Certified Nordic Instructor. Jay was also involved with the design of 10th Mountain Trail in Aspen-Vail and has written the Management Plans for Maroon Bell & Hunter Fryingpan Wilderness.

Thanks to: Organizing Committee

Conference Host:
Alf Skrastins - University of Calgary

Wayne Fett - The University of Iowa
Jim Fullerton - The University of Nebraska-Lincoln
David Webb - Brigham Young University
John Kascenka - Lyndon State College
Tim Moore - Illinois State University
Cree Reilley - University of California-Berkley
Jim Rogers - Illinois State University
Mike Ruthenburg - University of California-San Diego
David Secunda - Outdoor Network, O.R.C.A.
Ron Waters - Idaho State University

Local Organizers

Tessy Bray, University of Calgary
Colleen Swager, University of Calgary
Jamie Parkin, University of Calgary
John Janssen, University of Calgary
J.C. Lauzier, University of Calgary
Cal MacDonald, University of Calgary
Glen Cowper, LifeStride
Glenda Hanna, University of Alberta

Volunteers

Ann Nevill
Denis Gallagher
Carolyn Finlaison
Todd Ogrylo
Laurie Ward
Sonia Tyhonchuk
Jane Papenhuyzen
Steve Chambers
Richard DeArmond

Job Fair & Information Brochures

PEB 185 (the room beside the Rental Desk at the Outdoor Program Centre) will be set up with any job postings and information brochures provided by individuals and organizations attending the conference.

Post Conference Activities

Post Conference Activities are listed in the "Conference Schedule At a Gaince" section. All registrations for these activities can be bone through the U of C- Outdoor Program Centre (PEB-180).

Get out and Enjoy Canada's Winter Wilderness!

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7th International Conference on Outdoor Education

November 11, 12, & 13, 1993
Corvallis, Oregon

Thursday, November 11, 1193

8:00 am - 10:30 am	Registration	LaSells Stewart Center Giustina Gallery
10:30am - 12:00 pm	Opening Session	LaSells Stewart Center Austin Auditorium
12:00pm - 1:00pm	Lunch	LaSells Stewart Center Giustina Gallery

1:00pm - 1:50pm — Concurrent Sessions

Agriculture Productions

Outdoor Program Administration – Rap Session

Ron Watters, Idaho State University
Steve Guthrie, University of Nebraska

This is a chance for directors or administrators of Outdoor Progams to have a collective rap session. Our focus will be on the administration of outdoor programs. But the specific topics discussed will be determined by the group. Be prepared to talk about what's been working in your program and what's hasn't been working. We'll share problems, concerns and roadblocks, and seek from one another new ideas, fresh approaches and common solutions.

Construction Engineering Auditorium

Adventuring in Mexico — **1 1/2 hours**

Jim Fullerton, University of Nebraska

Whether your outdoor program already journeys into Mexico, or is interested in beginning to offer adventure trips into Mexico, this information/sharing session should be of interest to you. Participants will be invited to discuss their experiences, interests, resources, contacts, question and concerns.

(more sessions on the next page)

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Agricultural Sciences

The Essentials of Outdoor Leadership and Safety Management of Adventure Activities

Dr. Paul Green, Eastern Washington University

This session will focus on the techniques and procedures of leading outdoor adventure activities. The interactive session will begin with a discussion on the changing standards that apply to leaders and guides with special emphasis on the client's expectations. Topics include: new styles of safety briefing, developing an appropriate risk management plan and risk assessment, understanding the new standards and the implications of their mandate, and discussing the appropriate safety equipment for a variety of outdoor pursuits.

First Interstate

Cultural Diversity for University Outdoor Programs

Jim Lustig, San Diego State Unversity

In the Spring of 1992, the Associated Students of SDSU accepted a proposal from Campus Recreation for hiring a full-time Outreach Coordinator. The purpose of this position is to make meaningful contacts with under-represented/minority students and opportunities for participating in Campus Recreation Porgramming. This session is designed to share information regarding the goals, implementation and history behind this program.

Outdoor Recreation Center

Basic Rockclimbing Instruction: A Model for Rockclimbing Instruction in an Indoor Climbing Facility

Gil Anspacher, Oregon State Univeristy, Pacific Crest Outward Bound

Student leaders at the OSU Outdoor Recreation Center have developed a simple and efficient model for teaching the basics of rockclimbing in 3 hours. Specific areas of instruction include movement on rock, belaying and knot tieing.

2:00 pm - 2:50pm — Concurrent Sessions

Agricultural Productions

Program Management Concepts for the 90's

Gary E. Nielsen, Colgate University, New York

This session will focus on how to improve many areas in an existing Outdoor Program and/or start a new one (ie. staff training, staff unity, utilizing people within your program, "in house" videos for advertising). Since time is limited in the session many handouts will be distributed. The session will conclude with a question and answer session and idea sharing.

Agricultural Leader

Legalese

James Moss, Attorney of Law

What do all those words mean? What is the difference between express and implied assumption of risk? Why should we use a release rather than a waiver? In this program we will study legalese and try to get a grip on the meaning of the words used in risk management programs and outdoor recreation programs. We will explain the subtle and yet important differences between some definitions and why they work in some states and not in others.

Agricultural Science

Reducing Costs for your Outing

Roland McNutt, California State University, Chico

In this round-table discussion, we will briefly outline the basic "hidden" and "actual" costs of outings. Then using a discussion format to generate ideas, we will examine the pro's and con's of these ideas and adapt them to the unique program that you manage.

First Interstate

Games and Initiatives in Outdoor Programs

Kirke Mahy & Yvonne Ramage, Oregon State University

Come ready to participate in a few new initiatives and be ready to share ideas with other professionals in the field.

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Thursday, November 11, 1993 (continued)

2:50 pm - 3:30 pm — **Break**

3:30 pm - 4:30 pm — General Session

Austin Auditorium

The Framework of the Proposed International Association of Outdoor Programs: An Informational Overview and Discussion Session

During this session, the Association Development Committee will provide an overview of the work they accomplished in developing a framework for our proposed professional association. Following the informational overview participants will be encouraged to ask questions and discuss ideas related to the development of our professional association.

7:00pm — Presentation: Alaska - Cycle the North — Construction Engineering

Peggy Ehlers (Douthit) — LaSells Stewart Center

Join long-distance cyclist Peggy Ehlers (Douthit) for this three month, 5000 mile bicycle journey from Montana to Alaska. Experience the beauty and challenge of cycling through Alberta, British Columbia, theYukon, and Alaska. Through breathtaking images, music, and live narration, you will experience the beauty and the culture of the far north.

(beer and wine served after the show)

Friday, November 12, 1993

8:00 am- 9:00 am — **Breakfast** — MU Concourse

9:00 am - 9:50 pm — Concurrent Sessions

MU 105

The Portable Adventure - New Activities and Materials for Adventure Programs - Anywhere — **1 1/2 hours**

Steve Butler, Project Adventure Inc., Portland, Oregon

Can you offer a Project Adventure curriculum without a challenge ropes course? Since the ropes course has such high visibility and such a dramatic impact, the impression may be that adventure cannot happen without a course. This workshop program will introduce people to many non-ropes games and initiative problems.

MU 206

Programming for Leadership Training

Dennis Johnson, University of California, Davis

How do you recruit, train and promote guides and leaders to run your programs? How do you create within your existing programs a leadership development ladder to ensure a continual pool of competent, safe, and enthusiastic leaders? Using a lecture/discussion format, we will answer these questions.

MU 208

Come T.R.I.P. with us!

Eric Frauman, University of Florida

From the sunshine state and the University of Florida, I will be presenting our student operated travel and recreation program (TRIP) trip leader training course. It is a 10-week non-credit voluntary course that prepares students to lead outdoor adventure and leisure-based trips for the university community.

(more sessions on the next page)

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MU 211

Map and Compass

Rob Singleton, Oregon State University

Map and compass can be one of the most challenging teaching opportunities a wilderness instructor has to face. While we may know how to use them , teaching map and compass can be frustrating. How can we transfer our knowledge to students in a clear, concise, and effective manner? Let's get together to share teaching methods, presentation options andnew ideas.

MU Council

Recreation Jobs and Internships with the Federal Government

Brian Smylie, Morale Welfare and Recreation Dept., U.S. Navy

This session will provide the necessary information to attendees who wish to obtain a job in recreation with the federal government. This session will also provide sources of paid internships in recreation with the federal government.

10:00 am - 10:50 am — Concurrent Sessions

MU 105

Portable Adventure (continuation from 9:00 am)

MU 206

Training and Certification of Mountain Guides in Canada and USA

A discussion and explanation of training and certification of Mountain Guides by the Association of Canadian Mountain Guides at an international standard (UIAMG). This will be compared to the current standards in the USA (American Mountain Guides Association).

MU 208

Adventure Sports: Planning for Enjoyment and Success

Anne-Sylvie Lacroix, Maharishi International University, Iowa

Proper planning is the key element for a successful adventure sport program. To demystify the different points involved in planning, a personal and practical experience of running outdoor trips will be discussed: projected participation, institution or resource owner authorization, instructor skills and knowledge, and afety and liability aspect.

MU 211

Army Recreation Internship Program

Bob McKeta, Army Community Recreation Directorate, U.S. Army

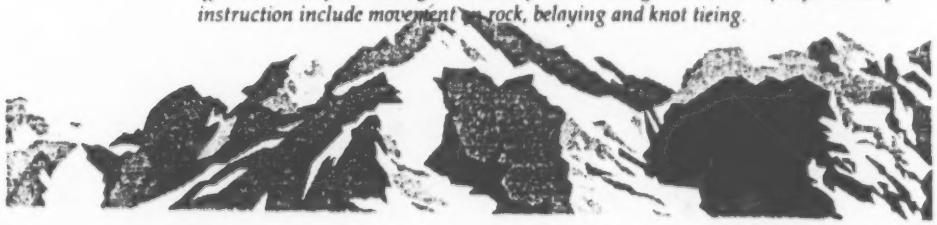
The presentation will focus on (1) providing students with application information to participate in the program; (2) providing information reference typical geographical opening both overseas and stateside; and (3) discussing intern expectations in the four major program areas: outdoor recreation, sports, community recreation, and youth activities.

Outdoor Recreation Center

Basic Rockclimbing Instruction: A Model for Rockclimbing Instruction in an Indoor Climbing Facility

Gil Anspacher, Oregon State University, Pacific Crest Outward Bound

Student leaders at the OSU Outdoor Recreation Center have developed a simple and efficient model for teaching the basics of rockclimbing in 3 hours. Specific areas of instruction include movement on rock, belaying and knot tieing.



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11:00 am - 11:50 am — Concurrent Sessions

MU 105

Risk Management Update

James Moss, Attourney at Law, Colorado

What's new in the outdoor recreation risk management field. The news media shouted out warning of canoeing in Pennsylvania where a jury awarded $800,000.00 in damages. This case and several more will be discussed in a review of a very litigious year in outdoor recreation, as well as the effect it will have on us in the future. It was an intense year.

MU 206

Women in the Outdoors

Rachel Kirby, Lisa Gaines, Yvonne Ramage, Kirk Mahy, Oregon State University

Round table discussion of the issues and challenges of women in outdoor pursuits. Both as leaders and participants, women face special challenges in many areas including: finding appropriate equipment, group interactions, physical demands, and learning techniques Many questions can be discussed, such as "how can we recuit and keep more women instructors?" and "how can we make our outdoor adventures more accessible for women."

MU 208

Possible Computer Roles in Outdoor Programs

Tim Traver, University of California, SanDiego

Maybe your outdoor program has made the leap into the world of computers, or maybe it hasn't. This is for anyone trying to initiate or expand the use of computers in their program. Topics include: places in your program for a computer, an overview of computers and their interfaces and types of software including spreadsheet, word processing, and database.

MU 211

Overview of Basic Coastal Kayak Touring Skills

James Vermillion, University of Alaska, Anchorage

An introduction to the skills needed for comfortable and safe coastal trouting by kayak. Brief discussions of equipment, instruction, and other resources available to the trip leader/ organizer.

MU Forum

Program Management Concepts for the 90's

Gary E. Nielsen, Colgate University, New York

This session will focus on how to improve many areas in an existing Outdoor Program and/ or start a new one (ie. staff training, staff unity, utilizing people within your program, "in house" videos for advertising). Since time is limited in the session many handouts will be distributed. The session will conclude with a question and answer session and idea sharing.

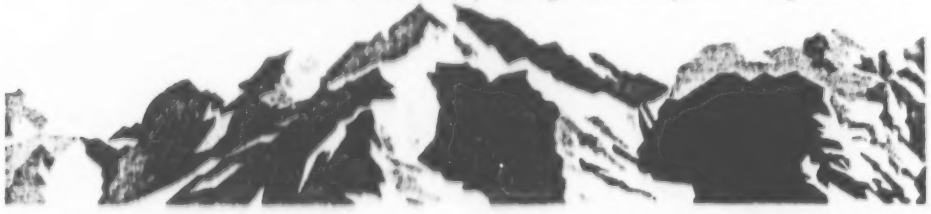
12:00 pm - 1:30 pm — Lunch (on your own)

12:00 pm - 2:30 pm

Tour - University of Oregon, Outdoor Program

Dan Geiger, University of Oregon, Eugene

Since we have limited attendance, please register at the Information/Registration Desk



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1:30 pm - 2:20 pm — Concurrent Sessions

MU 105

Outdoor Leadership Training - Sharing Issues, Ideas, and Initiatives

Bob Stremba, Counseling Center, University of Puget Sound, Washington
Bruce Clemetsen, Residential Programs, University of Puget Sound, Washington

This workshop is an opportunity for those involved in developing and providing training for outdoor leaders and instructors to come together and share what works, what the challenges are, and to examine their own leadership training program. The agenda will be developed by workshop participant. Topics might include: recruiting and selecting leaders; diversity; training in technical skills; interpersonal skills and teaching skills; the relationship between program, leader and participant goals; models of outdoor leadership; supervision and evaluation. Come to share leadership training materials, staff procedures manuals, and to demonstrate initiatives and activities relevant to leadership training.

MU 206

The "Pro-Deals" Role in Outdoor Programs

Mike Ruthenberg, University of California, San Diego
Stephen Ludin, University of California, San Diego

Pro deals can be a mutualistic symbiotic relationship between collegiate outdoor programs and manufacturers. Pro-deals are also an effective motivation tool if used properly within the outdoor program. Unfortunately, many manufacturers are restricting pro-deals and excluding outdoor programs from this valuable perk due to abuse. In this guided round-table session, we will explore the ideology behind and the use of pro deals, as well as the chief complaints about having us as a group. We will also allow for discussion on how to get and effectively use pro-deals from some of your favorite outdoor gear manufacturers.

MU 208

Mountain Biker / Hiker Conflict: Management Strategies and Social Research

Bill Hendricks, University of Oregon

The purpose of this session is to describe and synthesize previous studies regarding outdoor recreation behavior and conflict between mountain bikers and hikers. The session will also focus on a discussion of strategies to manage recreation conflict between these groups.

MU 211

Adventure Base Counseling Works!

Mark Wolfe, ABLE Program, Corvallis, Oregon

One of the best uses of adventure programs can be its connection with basic tenets of counseling, providing a unique opportunity for personal and group growth. This workshop will be a discussion and demonstration of basic Adventure Based Counseling.

MU Forum

Student Led Programming: An Issues Forum

Joe Quinn, Appalachian State University

A descriptive presentation of Appalachian State University's Outdoor Program operation focussing on the issues and concerns involved with student-led trips. Topics will include: recruiting and hiring staff; creating and maintaining trip leader standards and qualifications; trip leaders as students: commitment, time management, risk management expertise; training and nurturing student staff; continuity and turn-over, opportunities for employment after graduation.

Outdoor Recreation Center

Tour - OSU Indoor Climbing Center

Caleb Carlson, Oregon State University

This unique facility was designed and built in 1989-90 by a team of volunteers from OSU and the community. It feature over 4,000 square feet of climbing surface and is designed for climbers of all abilities. Come tour the facility.

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Friday, November 12, 1993 (continued)

2:30 pm - 3:20 pm — Concurrent Sessions

MU 105

Outdoor Leadership Training—Sharing Issues, Ideas and Initiatives (continuation from 1:30 pm)

MU 206

Wilderness Weather Forecasting

James Vermillion, University of Alaska, Anchorage

An overview of weather system development, movement, and system effects. Presentation develops a technique for field observation and evaluation of weather system identification. Participants will develop a functional knowledge of field forecasting.

MU 208

Computerize your Outdoor Program

Ken Mattson, Softplex Systems, Idaho Falls

MU 211

'Ecotourism: Is It Just Another Oxymoron?'

The environment is gaining prominence in our daily lives. Consideration for the environment is broadening to encompass a broader range of activities, including leisure and recreation. Recreationists are increasingly demanding a more caring attitude toward the environment from those involved in the tourism trade. This is bringing rise to "ecotourism" which is often called nature, adventure, alternative and sustainable tourism and green travel.

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4:00 pm- 6:00 pm — General Session

MU Forum

The International Association of Outdoor Programs: A Quest for Implementation

Tim Moore, Illinois State University and Association Development Committee

During this session, the International Association Development Committee will discuss the needs relative to the future development and implementation of the International Association of Outdoor Program. Conference participants will be called on to vote on the implemenetation of the Association plan during this session.

6:30 pm - 8:30 pm — Dinner Banquet — *MU Ballroom*

8:30 pm - 9:30 pm — Presentation: — Milam Auditorium

Lou Gold

Lessons from the Ancient Forest:
Earth Wisdon and Political Activism

Saturday, November 13, 1993

9:00 am — Breakfast — MU Concourse

8:30 am - 10:00 am — Outdoor Rec. Center

Kayak Roll Instruction Clinic

Kyle Kotwica, Oregon State University

This presentation cover the basics of an effective method of kayak roll instruction. This is not a roll session, but a demonstration of effective teaching methods.

10:00 am - 10:50 am — Concurrent Sessions

MU 105

Risk Management Update

James Moss, Attourney at Law, Colorado

What's new in the outdoor recreation risk management field. The news media shouted out warning of canoeing in Pennsylvania where a jury awarded $800,000.00 in damages. This case and several more will be discussed in a review of a very litigious year in outdoor recreation, as well as the effect it will have on us in the future. It was an intense year.

MU 206

Advanced Games and Initiatives in Outdoor Programs

Kirke Mahy & Yvonne Ramage, Oregon State University

For those of you who are bored with your repertoire of games and initiatvies, come play with us as we share in a roundtable format innovative new games and initiatives. Bring your expertise and introduce to the group a game/initiative that has worked wonders for you.

MU 208

Americans with Disabilities Act Compliance: Opportunities for Growth

The presentation will provide an orientation to the ADA, describe implications for outdoor recreation programs, and introduce strategies for successful compliance. Topics include: the Americans with Disabilities Act, implication for outdoor recreationprograms, recreation opportunities spectrum, strategies for compliance & program growth. Actual situations, case studies, and case law will be used as examples to illustrate proactive approach to ADA compliance - the spirit & letter of the law.

MU 211

Leave No Trace Program: An Overview

Bruce Kime, Colorado Moutain College

This presentation will be an overview of the Leave No Trace Program facilitated by the National Outdoor Leadership School in partnership with the US Forest Service, US Bureau of Land Management and National Park Service. Topics included are: background/history, mission statement, strategic goals of LNT, target regions, masters course curriculum and videos "Soft Paths" and "Canyon Soft Paths" and questions.

11:00 pm - 11:50 pm **Concurrent Sessions**

MU 105 **Essentials of Outdoor Leadership and Safety Management of Adventure Activities**

Dr. Paul Green, Eastern Washington University

This session will focus on the techniques and procedures of leading outdoor adventure activities. The interactive session will begin with a discussion on the changing standards that apply to leaders and guides of adventure activities with special emphasis on the client's expectations. The information to be discussed will include: new styles of safety briefing, developing an appropriate risk management plan and risk assessment, understanding the new standards and the implications of their mandate to all outdoor field experiences, and discussing the appropriate safety equipment needed for a variety of outdoor pursuits.

MU 208 **A Computerized Cataloging System for an Outdoor Program Library or Resource Center**

Ron Watters, Idaho State University

Many Outdoor Programs maintain outdoor resource libraries. Included in the library may be books, environmental impact statements, videos, periodicals, etc... As more items are accumulated it becomes more and more difficult for users and staff members to know what's available and where it is located. A computerized cataloging system is particularly effective, allowing users to do rapid word searches to find needed resource materials. This session explores a free IBM compatible software program developed specifically for outdoor recreation programs. It is the second in a series of three free software programs. The first of the series was the Outdoor Program Participant Data Base System which was presented at the 1992 ICOR.

Outdoor Recreation Center **Tour—OSU Indoor Climbing Center**

Caleb Carlson, Oregon State University

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12:00 pm - 1:30 pm Closing Session Banquet & Slide Presentation *MU Ballroom*

Greenland...an Expedition

Join Ceclia Nunn and Wayne Haack as they present their dramatic story of the longest sea kayaking expedition in Greenlandic history

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Biographies

Alex Bolton, Colgates Outdoor Education Assistant Director, received his Bachelor's degree form Colgate University in 1991, and as a student, worked in the outdoor program as a student staff member and staff training assistant. He has traveled to India, Egypt, Israel, Bangladesh and Nepal, where he successfully climbed a 20,000 ft peak in the Annapurna range. He has also completed the NOLS instructors course, and is now a full-time faculty member at Colgate University.

Caleb Carlson, manager of the Oregon State University Indoor Climbing Center. Senior in Oceanography, snowboard Instructor, bicycle commuter. Does not own a T.V.

Bruce Clemetsen, co-directs the new student outdoor orientation program at the University of Puget Sound. This program includes selecting and training over 60 leaders each year. Bruce is Assistant Director for Student Leadership Development at the University, and has developed and taught leadership courses over the past five years for a variety of college outdoor and professional populations.

Brent Cochran, Coordinator of Outdoor Program Appalachian State University since 1992. B.S. in Business Administration and MBA from Appalachian State. River guide and instructor in several other outdoor activities. Personal pursuits include rock and ice climbing, whitewater kayaking, and mountain bike riding.

Peggy Ehlers-Douthit, former coordinator of the Oregon State University Outdoor Center is an avid outdoor adventurer. her involvement with the university (OSU) led to the development & construction of the Indoor Climbing Center and numerous adventure programs. Her passion has always been long distance bicycle touring including cycling 2 1/2 times across the U.S., cycling to and through Alaska (3 times) and numerous "shorter" trips. She and her husband are currently living in Eugene, Oregon and planning new "adventures".

Eric Frauman, is a graduate student in the Counselor Education Department at the University of Florida. His tract is college student development with a special interest in outdoor pursuits. He is currently the Travel and Recreation Program (TRiP) Coordinator and Leadership Trainer. TRiP is housed in the student union and is a student-operated program. Eric has travelled quite extensively throughout the United States and is especially drawn to mountain biking, canoeing, and hiking.

Steven Guthrie, received his graduate degrees from the University of Oregon (Eugene). While a graduate student, he taught for and coordinated the Physical Education Department's Outdoor Pursuits Program, let trips and taught for the Eugene Parks and Willamalane Parks programs, and participated in the Student Union outdoor program. Upon graduation, he coached X-C skiing in New Hampshire for a winter, and then accepted the Outdoor Venture Center coordinator position at the University of Nebraska at Omaha, where he is currently.

Barbara Harper, is an experienced, natural, adventure practitioner. An honors graduate of Dartmouth College, Barbara played a key role in helping Butterfield and Robinson, Inc. penetrate new bicycle touring markets by brining bringing the company expertise in creative route design, public relations, and logistical coordination before joining Project Adventure. Barbara has been instrumental in helping PA launch its fourth and newest domestic office in Portland, Oregon through blending her management information systems skill, research and planning experience and facilitation expertise. Barbara currently delivers Adventure Experiences for PA in the Physical Education/Recreation Strand designed to help professionals incorporate both physical and mental challenges into health, physical education, camp and recreation programs.

Bill Hendricks, is an Assistant Professor in the Program of Recreation, Tourism Management and Design at the University of Oregon. Bill has nearly 10 years practical experience in park and recreation resource management and has previously taught outdoor recreation activity courses at the University of Utah.

Roger Howard, is the Program Director for the Alternative Mobility Adventure Seekers (AMAS), Outdoor recreation program for people with disability at Boise State University. He has been a certified Theraputic Recreation Specialist for 10 years. He also has provided program, architectural and ADA consultation to federal, state and local governments the commercial recreation industry.

Dennis Johnson, Director of Outdoor Adventures and University of California in Davis. He created and instructed in Outdoor Recreation Program, De Anza College for 10 years. B.A. History/Economics, Whitman College; M.A. History/ Economics, University of Oregon.

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Biographies

Bruce Kime, has a B.S. in Education from Oklahoma State University, a M.S. in recreation and Parks Administration from the University of Oklahoma and is a graduate of the National Outdoor Leadership School's Educators and Leave No Trace courses. He is a certified Nordic Instructor with PSIA and worked as a professional river guide for 12 years. He is currently Associate Professor of Outdoor Education and Coordinator of Wilderness Studies at Colorado Mountain College in Glenwood Springs, Colorado.

Kirke Mahy, has a BA in social work, working on a masters in counseling with emphasis in adventure based counseling. Worked as a wilderness therapist with troubled youth in northwest Montana for three years. Also leads trips through the OSU Outdoor Recreation Center.

Bob McKeta, is a Director of the Army Outdoor Recreation Program at HQ. Department of the Army, located in Alexandria, VA. He is also the coordinator for the Army Recreation Intern Program.

James Moss, is a Denver area trial attorney specializing in outdoor recreation law. He represents a wide variety of outdoor industry organizations and companies from manufacturers to universities. He has made presentations to the Wester River Guides Association, Colorado River Outfitters Association, America Outdoors, ICOR, Wilderness Education Association and many others. He teaches part time for the Community college of Aurora and is a guest lecturer for Colorado State University and Prescott College. Jim currently works 70 to 100 days a year as an outdoor guide for whitewater rafting companies in Colorado and the Grand Canyon. He lead back packing trips for the Boy Scouts and teaches rock climbing in Colorado.

Gary Nielsen, faculty member and Colgate's Outdoor Education Program Director, received his Bachelor and Master degrees from Brigham Young University in the mid 80's in Recreation Administration, and for the past 7 years, has been building a successful outdoor program at Colgate University. Canoeing, telemarking and ice climbing are some of his favorite outdoor activities with staff training and program administration being areas of specialty. He is married and enjoys recreation with his 3 children.

Joe Quinn, Director of Outdoor Programs, Appalachian State University since 1990.; B.A. in Psychology from Colgate University; North Carolina Outward Bound instructor and course director for 13 years; public school teacher for 4 years; personal pursuits include mountaineering, rock and ice climbing, mountain biking, and high-altitude studies.

Yvonne Ramage, has lead trips through the Oregon State University Outdoor Recreation Center for 4 years, and is an instructor with Colorado Outward Bound. Her experience includes coordinating various outdoor and experiential education programs. Favorite outdoor activities: rock climbing, mountaineering, mountain biking, and white water rafting.

Rob Singleton, began leading trips with the University of Oregon Outdoor Pursuits Program and Outdoor Program. He has been leading for Oregon State University Outdoor Recreation Center since 1988. This summer he completed his first season with Pacific Crest Outward Bound. Interest are: telemarking, mountaineering, kayaking and rafting.

Bob Stremba, co-directs the new student outdoor orientation program at the University of Puget Sound. This program includes selecting and training over 60 leaders each year. In addition, Bob is Director of Counseling at the University, is executive director of Outdoor Discoveries, an adventure education program, and serves on the council of AEE Northwest.

James Vermillion, founder of adventures & Delights Eco Tours in Alaska, University of Alaska adjunct professor in Wilderness Studies. He did the first modern circumnavigation of Attu and Agattu Islands in the Aleutians by kayak.

Ron Watters, is the Director of the Idaho State University Outdoor Program and the author of five books on outdoor topics. He has owned an outdoor equipment manufacturing and retail business in Pocatello, served on the Board of Directors of the American Whitewater Affiliation and helped develop the first National Outdoor Recreation Conference in Bozeman.

Richard Wilson, is a professor of Outdoor Recreation and Forest Botany at the University of New Brunswick. He has undertaken numerous solo ecotourism cycling trips to southeast Asia, India, New Zealand ad Europe. He is presently completing a PhD in Forest Molecular Mycology.

Mark Wolfe, M.S., runs the ABLE Program (Adventure Based Learning Experience) for the Corvallis School District and teaches courses each summer in Adventure Based Counseling for the OSU Counseling Department.

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